

University News

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S. ARYA

Towards Human Excellence in Universities

M.R. KURUP

Education for Personality Development — Fees and Government Grant as Constraints

G. NARSIMULU & B. PRABHAKER REDDY

Advocacy Forum for Education For All

SURYA NATH PRASAD

Education for Peace

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The Mainstay of Tertiary Education — Convocation Address

RICE OF THE FUTURE

COLLEGES AND VOCATIONALISATION

FUNDING OF SCIENCE AND TECHNOLOGY



Association of Indian Universities



ALIGARH MUSLIM UNIVERSITY, ALIGARH

ADMISSION NOTICE No. IV

SESSION - 1995-96

Applications on prescribed forms are invited from eligible candidates for admission to the following courses for the academic session 1995-96. The last date for receipt of completed application forms in the Admission Office of the University is mentioned against each course.

S.No.	Course	Last date for receipt of Applications
1.	Diploma in Costume Design & Dress Making/Office Assistantship and Secretarial Practice	15.07.1995 (Sat)
2.	Post M.A. Dip. in English Language & Literature/Post M.A. Dip. in Urdu Translation/P.G. Dip. in Strategic Studies/Post M.Sc. Dip. In Museology	22.07.1995 (Sat.)
3.	*Master of Fine Art (M.F.A)	22.07.1995 (Sat.)
4.	M.Sc. (Agriculture) Plant Protection/Master of Agricultural Economics & Business Management/M.Sc. (Agr.) Agricultural Microbiology/Post Harvest Engg. & Technology - M.Tech. (Agr.)	22.07.1995 (Sat.)
5.	*P.G. Dip. in Taxation/*P.G. Dip. in Public Relations	22.07.1995 (Sat.)
6.	*M.Sc. Engg. (Civil/Electrical/Mechanical/Electronics/Chemical)	24.07.1995 (Mon.)
7.	Diploma in Steno Typing/Diploma in Computational Mathematics/ P.G. Dip. in Hindi Translation/Post M.Sc. Dip. in Applicable Mathematics	24.07.1995 (Mon.)
8.	*Diploma in Teaching	24.07.1995 (Mon.)
9.	B.A/B.Sc./B.Com. (Hons.)/B.A. (Hons) Physical Health & Sports Education. Part-I	26.07.1995 (Wed.)
10.	M.A/M.Sc./M.Com./LL.B./D.B.A./B.Th./M.Th.	31.07.1995 (Mon.)
11.	Non-Test Professional Courses : Diploma in Electronic Data Processing & Machine Operation/ Post Management/ Museology/ Company Law and Banking Insurance/ Labour Law and Labour Relations/Criminology & Criminal Administ./ Laboratory Technology (Physical & Chemical)/ Gem Testing and Art of Lapidary/ Orthoptics/ Applied Art/ Electrical Maintenance/ Cartography/ Pisciculture/ Horticulture/ Certificate in Functional Hindi	31.07.1995 (Mon.)
12.	*B.Sc. Industrial Chemistry/B.Sc. Computer Applications (Vocational Courses)	31.07.1995 (Mon.)

*Entrance Admission test will be conducted by the Department concerned.

Full particulars regarding the courses are given in the Guide to Admission No. 1 obtainable through post from the Deputy Controller (Admissions), A.M.U., Aligarh-202 002 (U.P.) by sending crossed Indian Postal Order for Rs. 20/- drawn in favour of Finance Officer, AMU, Aligarh alongwith a self-addressed envelope of 25 x 15 cms in size affixing postage stamps worth Rs 15/- for sending the required material through registered post. The University is not responsible for any postal delay.

The University reserves its right not to offer admission in any course of study at any stage even after a notification to invite applications for admission to the course concerned has been made.

PROF. HUMAYUN MURAD
Controller of Exams & Admissions

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Editor :
SUTINDER SINGH

Towards Human Excellence in Universities

S. Arya*

Indian planners have rightly conceived education as an integral component of development process. Indian education system had multifaceted task to be executed, namely, meeting the challenge of quantitative expansion, strengthening the linkages between education and the labour market and bridging the gap between the world of work and knowledge, reducing regional disparities, widening socio-economic basis of the educational system through programmes of protective discrimination as well as of proper incentives to reduce and ultimately eliminate the differential between scheduled and non-scheduled, the rural and the urban as well as the male and female population, transforming the teacher and teaching oriented education into a learning/learner-oriented education and developing meaningful education that contributes to national integration, humanism and love for nature.

In the day-to-day changing scenario we find considerable gap between the world of work and knowledge and the knowledge being imparted. Education has failed to provide career openings due to less emphasis on development of skills. About two decades ago, the Kothari Commission (1964-66) emphasised the transition from "the World of School to the World of Work." Patel Committee recommended the introduction of socially Useful Productive Work (SUPW) in the school curriculum. It has been criticised at many forums because of its sketchy implementation. The vocationalisation of secondary education has also met almost the same fate. It has thus become imperative that practical work experience i.e. learning while doing, is given due priority in the school, graduate and postgraduate curricula. The graduates who obtain degree on the basis of their academics as well as practical work experience will definitely prove assets to the organisations they join.

Institutionalised inservice training, upgrading of skills and development of human resources on continuing basis is essential for the growth and development of any organisation. Development of programme and infrastructure has to be commensurate with the exposure to new knowledge and sharpening of skills of the men engaged in the organisation. Material development cannot be achieved without attaining the pre-requisite development of human resources. All governments, industrial houses and non-governmental organisations spend a good proportion of their investments in the training of the staff.

Training of teachers and scientists is all the more important as they are engaged in a profession that demands a great deal of creative work and skills. The teachers in universities have a strong base of pre-service training, as they join the universities after obtaining degrees in higher education. However, their job requirements are equally challenging as they man-

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the highest seats of learning. Successive commissions, committees and other learned bodies on education and higher education have highlighted the importance of teachers' training and recommended the establishment of a system of continuous inservice training of teachers. The National Commission on Agriculture (1976) made similar recommendations for the teachers and scientists in agricultural universities and the ICAR. The Mehrotra Committee Report of UGC (1986) recommended an inbuilt structure of faculty development and promotion, which has been accepted by the Govt. of India and implemented in all Indian universities. The report recommends making provisions for college and university teachers to acquire higher degrees of M.Phil and Ph.D. and also creating facilities for orientation and refresher courses for the teachers. About the Orientation Courses, the committee reports, "a programme of orientation courses for the new entrants to the profession appears to be highly desirable. These courses (3-4 weeks duration) should be specifically designed for the new entrants before or soon after they start teaching. The main emphasis should be on developing methodologies of teaching in the concerned subject." The report further adds, "The refresher courses should focus upon two main facets: (i) exposure to newer materials, and (ii) better ways of disseminating the existing and new knowledge."

The most outstanding feature of the Mehrotra Committee Report is that it has recommended a system of teachers' promotion linked with faculty development and improvement in qualifications. The following qualifications have been recommended for the promotion of a lecturer :

- (i) Eight years of service
- (ii) Ph.D. degree
- (iii) Should have attended at least two summer institutes or refresher courses or orientation courses of about four weeks duration each with proper and well designed evaluation procedure.
- (iv) Consistently good appraisal reports.

Thus, the need and importance of inservice training of teachers has been fully realised and incorporated in the administrative policy of the educational institutions.

Keeping this fact in view, Chaudhary Charan Singh Haryana Agricultural University (CCSHAU)

has introduced a policy of Teachers' Career Advancement on lines of UGC and ICAR. The University has been encouraging its teachers to upgrade themselves through intensive participation in scientific seminars, conferences, workshops at national and international forums. In spite of its spectacular achievements and developments, the University is always concerned about its future growth and development. The race between man and time is never ending and we have to continuously look for new directions and up-date ourselves in keeping pace with the fast changing scenario in science and technology. In line with this ideology CCSHAU has recently institutionalised inservice training of faculty by establishing an Academy of Agricultural Research and Educational Management (AAREM). This Academy will strive to fulfil the important need of providing training facilities to teachers and staff members. Besides catering to the training needs of a large number of faculty of varying backgrounds and job requirements, it will also meet the demands of the faculty of other sister institutions. It will also develop and organise need-based training programmes for administrative staff in agricultural universities and others related with agricultural development. Group discussions, seminars, workshops on areas of topical interest in agricultural research, education and extension systems will also be organised. Sample surveys and research in areas pertaining to productivity of teachers, their training needs and other areas relating to teachers' trainings will also be conducted by this newly established academy. Established at a cost of Rupees 1.5 crore, funded by the World Bank, the Academy has since conducted two refresher courses for university teachers in collaboration with National Academy of Agricultural Research Management (NAARM), Hyderabad.

To Our Contributors

Contributors are expected to submit only original articles for publication in the *University News*. If an article is found to be plagiarised, it will be the sole responsibility of the contributor to face legal action, if any.

Education for Personality Development.

Fees and Government Grant as Constraints

M.R. Kurup*

There is no dispute about the role that a good education and a reputed educational institution could play in the transformation of the youth. The process of education in an institution may be broadly classified into curricular and cocurricular components. The curriculum is common to all institutions, except the handful of autonomous ones, affiliated to a University or Board, and consists of learning a prescribed syllabi, with the help of the faculty members, books, journals and other teaching-learning aids. The performance of the taught is tested usually with the help of a year-end examination. The cost of curricular programme in the aided sector is largely borne by the state governments, through a salary payment scheme, introduced during the 1970s.

The most critical and highly differentiating component of education is the range cocurricular programme, aimed at personality development of an adolescent. Unlike the closely formatted curriculum, the cocurricular activities (defined to include extra-curricular and extra-mural as well), may differ from institution to institution, depending on the organizational philosophy and goals, and the degree of leadership interest in such activities. Today, a degree in liberal arts, science, commerce, or management, among others, could be obtained without attending any college. Almost all state universities, besides the Indira Gandhi National Open University, offer a wide range of degrees, diplomas and certificates, through distance education, to those who have problems in attending a regular college. However, the institutions in the distance education network, do not cater to the cocurricular needs of the student community, which a regular college is able to offer and, therefore, the degree obtained through correspondence course, may not fully represent "education" in the broad sense of the term. The students have a greater chance of blossoming into full-fledged personalities through the regular stream,

which accounts for the heavy rush for admission in colleges.

With the introduction of the 10+2+3 structure, Maharashtra for instance, opted for a dual system, attaching the +2, (also called Higher Secondary, Pre-Degree or Junior College), with Schools as well as Colleges. This has led to a lot of administrative and academic confusion. The present paper deals with the Junior College sector, which appears to be the most neglected segment in the 10+2+3 stream. The issues raised are relevant in all educational institutions across the country, where the fee rates are not allowed to change with time.

Junior Colleges

The functioning of the Junior College in Maharashtra is governed by the Secondary School Code (known as the SS Code), administered by the Director of Education of the Government. A glance through the Code would reveal that they were formulated by keeping the School as the operational unit. An aided School is made to appear as a natural extension of the Department of Education. No school would take the risk of deviation into any innovative activity, which is not permitted by government officials or the SS Code.

The dynamics of education at the +2 attached to a college would represent a refreshing dissimilarity from that of the School. The college sector appears to be more dynamic than the school, due to a greater amount of "freedom of expression" the students and faculty members enjoy, in the former. The +2 fully merge with the +3 on the cocurricular platforms and, cannot be segregated from one another. The SS Code is totally inadequate and inappropriate to regulate activities of the Junior segment amalgamated with Degree College. Since the school and the college sectors are different in outlook and operations, they need to be looked at differently, not with the same and inflexible SS Code.

The students and the parents know pretty well

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that the college sector is better equipped for curricular and cocurricular activities. As a consequence, every aspiring student would first seek an admission to the First Year Junior College (FYJC) in the college sector. Only when the college seats get totally filled in, will the school sector start admitting students to these classes, despite the fact that total number of seats are more or less equally divided between the school and the college sector. The rush towards the college is largely due to the total package of education available to the student, particularly the cocurricular activities. An illustrative sample of two neighbourhood institutions—one in the college and the other in the school sector—given below, is an ample testimony to the overwhelming superiority of the college sector.

Table-1 Spectrum of Cocurricular Activities in Two Neighbourhood Institutions — A Comparative List

(A) *Junior College attached to a Degree College :*

1.0	Language Group	01. English Literary Association 02. English Proficiency Group (Remedial) 03. Hindi Sahitya Parishad 04. Marathi Vangmaya Mandal 05. Gujarati Sahitya Parishad 06. French Literary Association 07. Creativity Circle (College Magazine)
2.0	Leadership Development	08. Students Council 09. Rotaract Club
3.0	Cultural Group	10. Fine Arts & Cultural Circle 11. Dramatics Club (Theatre Group) 12. Film & Photography Appreciation Group
4.0	Sports/Games & Adventure Group	13. Gymkhana 14. Hikers' Club 15. Nature Club 16. Yoga Centre
5.0	Social Services	17. Teacher Student Forum 18. Students Mutual Aid Forum
6.0	Career Guidance	19. Students Academy 20. Career Guidance & Placement Bureau
7.0	Intellectual Exercises Group	21. Science Association 22. Planning and Management Forum

- 23. Social Sciences Research Unit
- 24. Debating, Elocution and Quiz Circle
- 25. Maths Olympiad Club
- 26. Scholars' Club (Library Corner)
- 27. Saturday Lecture Circle

(B) *Junior College attached to a School :*

- 01. Creativity Circle (School Magazine)
- 02. Cultural Association
- 03. Gymkhana
- 04. Science Club

As against 27 College Societies in 7 Activity-Groups, the School offers only 4 platforms, largely due to paucity of funds and the restrictions imposed by the SS Code. The institutions mentioned in Table-1 are aided by the state, and, therefore, charge a uniform fee, as prescribed by the government. For the purpose of our analysis, the fees may be classified into "Tuition" and "Nontuition" fees, the latter consisting of Term Fee, Admission Fee, Laboratory Fee, Examination Fee, etc. The Tuition fee goes to the government under the salary payment scheme, but the Nontuition fees are retained by the institution for meeting the non-salary expenditure.

The number of cocurricular platforms in an institution represents a deliberate attempt on the part of the Management to mould the character of the student into desirable channels. A student is able to pick up those activities which suit his talent and aspirations. This would ensure the development of the youth into a rounded personality, besides preventing diversion of energy to undesirable directions. Thus, the cocurricular component is an invaluable aspect of education, and plays a salient role in character and nation building.

Financing Cocurricular Activities

The cocurricular activities at the +2 stage in Maharashtra are expected to be met out of the Term Fee, which has remained the same at Rs 40 and Rs. 44 respectively at First and Second Year Junior College, since 1976. It works out to Rs. 42 per student per year. The items of expenditure permitted out of the Term Fee, as per the SS Code, are given in Table-2.

Table-2 Classification of Admissible Items Against Term Fee

1. Library: Books, journals, periodicals, newspapers, etc.
2. Examination : Question and answer papers, other related materials, mark sheet, certificates, etc.
3. Gymkhana : Sports, games, maintenance of playground, equipments for physical education, interclass and interschool tournaments, trophies, health check up, etc.
4. Cultural Activities Functions, festivals, competitions, equipments, prizes, drawing-craft materials, etc.
5. Miscellaneous Vocational guidance, educational kits, annual magazine, band, audio-visual and other teaching aids, NCC, NFC, etc.

The exhaustive list of admissible items would render the term fee totally inadequate to allow even a minimum meaningful cocurricular activity. We often hear a ritualistic hue and cry at the end of every inter-regional or international competition in sports or games, that 900 million people could not produce even a single performer worth a Gold Medal. The din will disappear slowly, to be repeated as a cycle, at the end of another such event. No one has ever delved into the depth of these failures, for that will reveal the inadequacy of the opportunities available in educational institutions, which are nurseries of sports and games in the country. It is well known that students at +2 are the ideal age group to be trained, nurtured and motivated to achieve outstanding results. But what can we achieve if the average monthly expenditure per student on sports and games at the +2 stage is less than Re.1, as revealed in Table-3. The table represents a simple Model of a Junior College with 1,000 students, in 10 divisions, made up of 1 division each of Arts, 2 divisions each of Commerce and Science at FYJC and SYJC levels.

Table-3 Nontuition Fees and Cocurricular Expenditure — A Model

1. Term Fee Budget:

- (i) Revenue @ Rs. 42 would be Rs. 42,000
- (ii) Expenditure as per SS Code :

Heads of Outlay (i)	Allocation per student 1976-1994 (ii)	Total expen- diture on 1000 students 1976-1994 (iii)	Inflation(*) equivalence of expenditure in 1994 (iv)
(a) Library, books, journals, periodicals, magazines, newspapers, etc.	Rs. 10	Rs. 10,000	Rs. 42,500
(b) Exams, tests, question papers, answer books, mark sheet, passing certificate, etc.	Rs. 10	Rs. 10,000	Rs. 42,500
(c) Sports, games, tournaments, physical education, health check up, etc.	Rs. 10	Rs. 10,000	Rs. 42,500
(d) Cocurricular, cultural, intercollegiate, inter- class, District-State level competitions, etc.	Rs. 5	Rs. 5,000	Rs. 21,000

(i)	(ii)	(iii)	(iv)
(e) College Magazine, creative writing, etc.	Rs. 4	Rs. 4,000	Rs. 17,000
(f) Teaching-learning aids, equipments, bands, accessories, a.v. tools, etc.	Rs. 3	Rs. 3,000	Rs. 13,000
Total	Rs. 42	Rs. 42,000	Rs. 178,500
2. (a) Collection of Admission Fee @ Rs.20 FYJC students (500) = Rs. 10,000			
(b) Divisionwise Nonsalary grant, (if received) = Rs. 21,600 .			
Total receipt (2a + 2b)		Rs. 31,600	
Expenditure allowed out of (2) above includes electricity, water, telephones, administration, postage, stationery, conveyance, refreshments, etc.		Rs. 31,600	Rs. 134,300
3. Science Lab Fee @ Rs. 70		Rs. 28,000	Rs. 119,000
4. Total (1+2+3)		Rs. 101,600	Rs. 431,800
5. Deficit on account of Inflation (iv - iii) = (-) Rs. 330,200 Deficit per student		(-) Rs 330	

Note : (*) The expenditure equivalence in col. (iv) is worked out by using a simple method of *Inflation Accounting*, where the Index Number of Wholesale Price (Time Series) is used as the Multiplier to workout the equivalence of expenditure between 1976 and 1994. See Table 4 for further details.

The receipts and expenditures, excluding tuition fee and salary expenditure, have been worked out scrupulously by following the SS Code. The average expenditure per student per year on activities such as "sports, games, inter-class and inter-school, district and state level tournaments, equipments, physical education, health checkup, etc." cannot go beyond Rs. 10 out of a total collection of Rs. 42. This is too paltry an amount, which cannot buy even a bottle of "balm" for applying on a sprained leg! And yet, the educational system and institutions are criticized for nonperformance.

The accounts presented are, merely illustrative, and based on a pure "Balance Budget" approach, where the outlay is not allowed to go beyond the revenue. The college with 1000 students in three faculties would have received a total of Rs. 1,01,600 by way of Term, Admission and Lab Fees, and the division-based non-salary grant, both in 1976 and 1994. But it would need an amount of Rs. 4,31,800 in 1994 to procure the same materials, which the institution had bought for Rs. 1,01,600 in 1976, the year during which the fee

rates were fixed. The actual receipts remaining the same in money terms, at Rs. 1,01,600 both during 1976 and 1994, it was impossible to undertake a desirable level of activity merely due to Inflation over the period of time. If the institutions were keen to improve the quality and quantity of services to facilitate a better process of human resource development, the expenditure would have gone up many fold, resulting in huge

TO OUR READERS

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

unfunded deficits. The question is as to how will such deficit be met? The failure of the government to address the issue during the last two decades, shows the importance it gives to education as a mechanism of social transformation. Let us look at the arithmetic of diminution in the value of nontuition fees since 1976, as presented in Table-4, to bring home the point.

The first row of the Table shows the rates of fee and grant fixed by the government in 1976. As these rates have remained the same since then, we have used the Wholesale Price Index (1976 = 100) to arrive at the comparative changes in the money value of the fees since 1976. The Index Number of Wholesale Prices went up from 100 in 1976 to 425 in 1994. Accordingly, the average Term Fee ought to have been revised from Rs. 42 to Rs. 179 by 1994, to ensure at least the same level of purchases made in 1976. The last row shows the indexed monetary equivalence of Admission, Laboratory and Examination fees, besides the grant in aid based on the number of Divisions in 1994. Since they too had remained the same since 1976, it culminated in a considerable erosion of the cocurricular activities and a total deterioration in the overall standard of education in the State. During the period under review, the government has allowed the revision of salaries of the staff members twice, but every attempt to revise the nontuition fees was shelved on socio-political considerations.

Institutions which could not mobilize resources on

their own for meeting these activities, shifted the focus from 'education' to examination results. Even the community around, out of sheer ignorance, equated the standard of education with the marks scored at the examination. No body questioned the inadequacy of the package available in an educational institution. And, the excess demand for admission came very handy to the management of institutions to camouflage their shortcomings.

More enterprising amongst the institutions retained the initiative by collecting capitation fees, donations, souvenir advertisements, cultural programmes with forced tickets, and so on. Instances of misuse of such receipts for personal gains through corrupt practices, cannot be totally ruled out. Here, education assumes the dimension of "business", which could have been prevented had there been periodic review of the financial needs of the educational institution and making appropriate provisions for meeting them.

The Remedies

The revision of the nontuition fees at the +2 stage is needed for yet another reason. Since 1976, the overall educational scenario has changed. There has been an explosion in ideas, information, and knowledge in recent times. Now packages of teaching-learning delivery systems, including audio-visual aids, have come in a big way to the field of education. For instance,

Table-4 Nontuition fees per student indexed to the Time Series of Wholesale Price Index (1976 = 100)

Year	Price Index	Term Fee	Admission Fee	Lab Fee	Exem-Fee Art/Com	Exem-Fee Sci	Din-Grant Art/Com	Din-Grant Sci
1	2	3	4	5	6	7	8	9
1976	100	42	20	70	05	10	2000	2400
1980	144	60	29	101	07	14	2900	3500
1990	290	122	58	203	15	29	5800	7000
1991	330	139	66	231	17	33	6600	7900
1992	363	152	72	254	18	36	7300	8700
1993	395	166	80	277	20	40	7900	9500
1994	425	179	86	298	21	43	8500	10200

(Fees are in Rupees and fractions rounded off).

— — — — — ~~single school with computers in 1976, but there may not be even one without a computer, today. The new hardware and softskills necessitate huge expenditure. The government may have to abandon the traditional mode of thinking on financing education, and seriously consider a wide range of measures, including the revision of nontuition fees and grant-in-aid formula, to meet new challenges. It would be ideal to replace the common Term Fee by specific fees, like the Sports-Games, Cocurricular, Examination, Library, College Magazine, etc. This would also prevent the misuse of the term fee by way of diversion, to suit the needs of the authorities.~~

The thinking at the official level appears to be influenced largely by "equity" considerations, that a revision of fees would keep the socially and economically weak students away from education. At one point of time in the past, this was true. But the time has changed, and even the socially weaker sections have improved their economic status, under the state patronage, like the Reservation Policy. Those who are really poor could be taken care of by the government through a compensatory grant-in-aid scheme. Even this is not forthcoming, due to paucity of funds with the government. The government and/or the beneficiaries should pay for at least sustaining the level of activities, and preventing a vicious circle of poor standard and nonperformance setting into the field of education.

Another alternative is to go for a two-tier system of fees—one for the junior college attached to school and other for the one attached to the college. Since the range of activities at the school level is restricted, the +2 with school has failed to be a dynamic link between the secondary and the higher education sectors. The +2 at the school sector may have a lower fee structure, which also would enable the system to accommodate those who cannot pay a higher fee for their education. The +2 amalgamated with the college sector is upwardly integrated with the +3, where facilities are available without any discrimination to degree and junior students. In most of the colleges, a student from the degree and junior sections works as Secretary and Joint Secretary respectively of each of the college societies. This provides an almost infinite scope for development of the personality. The students in college sector who receive a more comprehensive form of education, could be asked to pay more than their counterparts in the school sector. Talented students from the weaker sections, who seek admission in the college

sector, could be encouraged through a system of public subsidies or a variety of private initiatives.

Yet another suggestion is to change over from the fixed nonsalary grant based on the number of Divisions to a proportionate mechanism, as followed at the +3 stage, where an institution would receive nonsalary grant as a percentage of the total salary grant. The salaries go up every year, due to the provision for annual increments, revision of Dearness Allowance based on the cost of living index, or other interim relief granted to organized employees. Accordingly, the nonsalary grant, which is linked to the growing salary bill, would also go up, enabling the institutions to sustain cocurricular activities.

Another dimension of the negative thinking in the government stems from its identification of the +2 purely as a legitimate part of the school system. According to them, the amalgamation of the +2 with the college sector was an accident of time. It is therefore, put forth that the college too should follow the pattern of restricted activities as in the school. This reflects a pseudo-socialistic approach of deliberately bringing the rich down, if the status of the poor cannot be improved. This is suppression of education in its totality and would deprive a large segment of students a lifetime opportunity to shape their personality. The restrictive thinking on the part of the government is also not in keeping with the national policy of raising the share of expenditure on education to 6 per cent of the GDP. If the increased expenditure is earmarked largely for meeting the additional salary bill alone, it may not fully subserve the interest of education.

A debate on the basic issue raised—the quantum and quality of cocurricular activities and the mode of financing them—would not be out of place. An urgent review of the nontuition fees and/or nonsalary grant to help accelerate cocurricular activities in educational institutions is called for. Industrial and commercial establishments, and social and charitable organizations in the neighbourhood of the educational institution, could be motivated to come forward on a regular basis to sponsor the process of personality building, through endowments, scholarships or direct financial support. The economy measures of the government are like throwing the baby out with the bath water. This should not be allowed to happen at least in the field of education, which is envisioned to subserve the interest of the future generations.

Advocacy Forum for Education For All

G. Narsimulu*
B. Prabhaker Reddy*

Introduction

In the context of Indian social system, Education For All (EFA) is a new concept apart from the fact that it is a revolutionary concept. It is a new concept because in India the people are not familiar with the concept and the programmes of differentiated nature, such as, primary education, adult education, non-formal education, literacy campaign, etc. The people are not consciously oriented to the comprehensive concept of Education For All which is rooted in the universalistic principles of equity and social justice. It is a revolutionary concept because in the socio-historical and cultural context of Indian society which is still predominantly rural, hierarchic and authoritarian, Education For All is not yet an integrated part of the internalised belief system of the people and hence does not readily evokes commitment for it. Further, the concept of Basic Learning Needs, as expounded in the World Declaration on EFA (1990), is also a radical departure from the official curricular meaning of it in India. The official curricular meaning of basic learning needs is essentially limited to literacy skills and some functional knowledge. The World Declaration on EFA's scope goes much beyond, covering the liberation and conscientization and improvement aspects which are essentially people and non-governmental organisation (NGO) oriented approaches.

This challenge of communicating the concept of EFA to the people in its true meaning and spirit was the first charge on the EFA State Advocacy Forum.

EFA Advocacy Forum

In order to communicate the message of Education For All as visualised by the World Declaration, the strategy of utilising the channels of the organized social structures such as NGOs, Nehru Yuva Kendras (NYKs), educational institutions, media etc was adopted. However, based on the initial experiences in interacting with these organized social structures it was realised that the ad hoc approach will not sustain interest of these organizations on EFA. A group of

intellectuals drawn from various sectors, including mass media met under the chairmanship of an eminent adult educator, Professor V. Eshwar Reddy, and decided to form Education For All State Advocacy Forum in the Osmania University. The UNICEF agreed to finance the programme, the Osmania University advanced some financial assistance, and Education For All Advocacy Forum emerged in the year 1992 with Prof. V. Eshwar Reddy as Chairman and Dr. P. Sandeep as Secretary and constituted a core group drawn from different walks of life. In order to ensure continued and sustained interest on EFA, the State Advocacy Forum motivated and mobilised the public interest groups to form into EFA forums. This effort resulted in the emergence of NGO Forum for EFA, Writers Forum for EFA and the A.P. Legislators Forum for EFA. The role of the EFA State Advocacy Forum vis a vis these functional forums is to provide technical support for their activities in the form of providing sensitizing resource materials, such as educational profiles, conceptual papers and documents and helping in organization of seminars, conferences, etc. In turn, these functional forums undertake the EFA related activities as one of their important concerns besides networking with their counterparts in the state.

Regional and District Forums

The State Advocacy Forum centred round the creation of EFA forum structures at the decentralised levels. Andhra Pradesh is a big state with a population of about 67 million spread across 2,75,068 sq.kms. State level forums cannot effectively reach their message and activities to all without the supportive structures at the regional and district levels. To meet this reality, the State Forum undertook the task of creating the regional forums. In all, five regional forums have been formed in five different regions of the state, viz. North coastal region, South coastal region, Rayalaseema region, South Telangana region and North Telangana region. Six district forums were also formed. This effort of forming regional and district forums has been very rewarding. There has been a tremendous response from the people including media personnel, the government functionaries, active voluntary organizations, people's representatives, teachers' unions, educationists, leading persons from the legal, medical

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and other professions. Wherever the regional and district forums were created, the State Advocacy Forum projected the educational profiles of that region and district. It was a revealing experience to witness tremendous sensitizing power of the disaggregated data focused at the regional, district and the mandal levels. The local press has taken a lot of interest in publicising the local educational profiles. Generally, people know about the educational situation at the aggregated national, and to some extent state level. But they do not know about the situation in their own district, mandal or village. Aggregated national level data has very little sensitizing power and hence, cannot evoke motivation and mobilization at the grassroot levels where actually action should take place. One of the contributions of the State Advocacy Forum was to transform the official data stored in the government offices and documents into the people's data accessible at their own levels and in the manner intelligible to them.

Objectives

— To generate and sustain awareness of and commitment to the programmes of education For All/Universalization of Primary Education among the people at all levels in the community from politicians, administrators, media personnel, teachers, parents, NGOs and other community;

— To promote networking for the cause of Education For All among various governmental and non-governmental organizations, opinion leaders, besides communication media to reach effectively the target institutions, functionaries and people;

— To design, produce and disseminate the advocacy material through the effective use of modern and traditional communication technologies;

— To prepare training modules on advocacy skills to promote the cadre of resource persons on advocacy at the state, region and district levels;

— To develop communication relay system to facilitate collection and dissemination of information on model programmes of Education For All at the decentralised levels in the state;

— To develop position statements on a periodic basis outlining action designs through communication materials, workshops, seminars, conferences, etc to strengthen new partnerships to help achieve the goal of Universalization of Primary Education/Education for All; and

— To undertake field studies in the critical areas for the effective implementation of innovative programmes.

Activities

During the years 1992-93 and 1993-94, Education For All Advocacy Forum was financed by UNICEF. The Forum conducted the following programmes:

Development of Advocacy Material

One of the important domains of activity of the EFA State Advocacy Forum is the collection, preparation, publication and communication of EFA related concepts, information and situational analysis to the individuals, institutions and agencies who have the potential, if sensitized with such material, to play an active role in promoting the concept and goals of EFA. They include policy makers like the members of the legislative assembly, NGO leaders, media personnel, union leaders, administrators, academicians, etc. The strategic criterion followed by the Forum in identifying the individuals and agencies as targets of exposure to sensitizing communication material is the potential of multiplier effect they have.

The following are the major continuing activities undertaken in this domain :

1. Advocacy Extracts

A monthly update on child education and related aspects. This bulletin is being published without break for the last two years. The Forum scans all the material published in all the major newspapers, magazines, bulletins and reports published by the international, national and local agencies, selects and extracts for publication in Advocacy Extracts. The criterion for the selection of any item for publication is its sensitizing potential. To start with, this bulletin of monthly advocacy extracts was mailed to about 1000 persons and institutions which included all the legislators, members of Parliament, major NGOs state and district level administration, DIETs, etc. The forum received overwhelming response and appreciation for this bulletin and the demand for it came in from several other agencies and individuals. As a result the forum raised the mailing list to 1500. This bulletin is building up into a very valuable resource material on child education.

2. Data Bank

For advocacy of EFA, database is recognized as one of the most important requirements. State Advocacy Forum systematically collects the data on edu-

tional situation in Andhra Pradesh from all possible authentic sources, processes and analyses the data through computers to present and communicate in the form intelligible to all including the layman. The focus of data is essentially on primary education and literacy at all the disaggregated levels—state, district and mandal. The expected outcome of this exercise is to indicate the areas and aspects of action.

3. Educational Profile of the State

This data based document published both in English and Telugu highlights the relative place of Andhra Pradesh in the country on the basic indicators of primary education and literacy. It also indicates the relative position of the districts within the state. Besides, the document also highlights the constitutional and plan obligations. It also stresses the importance of girls education. The obligation of everyone as a citizen to fulfil the promise of universalising primary education is also stressed. This document has been widely circulated. Many newspapers also published the selected extracts of this document extensively in different regions of the state.

4. District Educational Profiles

This is a major work accomplished by the Forum. Educational profiles of 22 districts of Andhra Pradesh (excluding Hyderabad urban district) were prepared and published. The data presented in these district profiles also gives the educational situation of the mandals within the district. Particularly in the context of microplanning and schemes like DPEP, these profiles are of great value. What is innovative about these profiles is the casting or presenting the data in the framework of advocacy communication style. It is a pioneering effort in the country. The basic features of these district profiles were also broadcast on All India Radio.

The forum is now in the process of developing educational atlas of the districts, with a view to develop village focused documents.

5. Advocacy through Radio

The State Advocacy Forum worked out an arrangement with AIR, Hyderabad for the transmission of EFA messages through various forms of presentation like talks, plays, songs, etc. Once a week a slot of 30 minutes is provided by the AIR for this programme.

Much of the programme is field work based. State Advocacy Forum publishes a quarterly calendar of AIR programmes along with the outline of the themes and mails it to all the District Education Officers, Co-ordinators of Nehru Yuva Kendras etc, in sufficient quantities to reach the community institutions and thereby the listeners. That the response to this programme is overwhelming is evident from the number of letters received by the AIR and the Forum from all nooks and corners of the State.

6. Anthology of Telugu Stories

Keeping in view the historical fact that creative writers have always played an important role in promoting the social and political revolutions and movements through their writings the State Advocacy Forum has undertaken, as one of its important activities, to involve the creative writers in the task of advocacy of EFA goals. Dialogue with the writers in the forum meetings and seminars revealed that the writers had not focused on an extensive scale on the importance of "basic learning needs". With the intention of motivating and mobilising the creative writers, particularly the young writers, to write on the theme of education the forum decided to bring out a volume of short stories published so far on the theme of education. The task involved screening the available short stories spanning a period of over 90 years or three generations to identify such stories. Out of the available stories a selection has been made and an anthology of short stories on the theme of education with the title "*Chaduvu Kathalu*" has been brought out by the forum. The forum hopes that the upcoming writers will get inspiration from this volume of stories and start writing on this socially relevant theme of EFA. The workers and functionaries involved in various programmes of EFA will also be inspired by these stories which will serve as a tool for motivating the people towards EFA.

7. EFA Seminars

EFA State Advocacy Forum organizes two types of seminars, namely, general advocacy seminars and specific theme based seminars. General advocacy seminars with the objective of networking for EFA are conducted with the public interact group of NGOs, NYKs, teacher educators, writers and legislators. These seminars have created considerable interest among these group about the EFA cause and goals. Their cooperation was evident at the regional and district level EFA activities.

Three themes based seminars have been organised. The most important one was the seminar on Village Education Committees. This was organized in the wake of 73rd constitutional amendment conferring powers and functions related to 29 items of various sectors of development to the elected panchayat bodies. The major thrust of the seminar was to work out the operational details necessary to concretise the concept and to realise the objectives of village education committees. There was high level participation of all the concerned sections, namely, teachers' unions, NGOs, administrators, politicians, academicians, etc. The seminar recommendations were further discussed at various places in the state with the initiative of NGOs. Based on all these rounds of discussions the Forum published the document on Village Education Committees. This document has been widely circulated and there is tremendous response and appreciation for the utility of this document. There is demand for this report from several states. Besides, two workshops were conducted: one on creative writing on the theme of EFA, and the other on microplanning. These workshops developed the framework and guidelines on these themes.

8. Animation Programmes

State Advocacy Forum through the district forums conducted cycle rallies, women's march for EFA, and children's march for EFA. Fishermen Community's rally in Bapatla mandal and women and youth rallies in Tenali rural mandal are the highlights of this activity. NGOs have taken a great deal of initiative in these programmes.

District Forums—Structure & Activities

Education For All Advocacy Forum, Osmania University announced the agenda of action during the year 1994-95. Accordingly Education For All will have a structural basis at district level with duly constituted forums during the year 1994-95.

The activities of the District Advocacy Forum will be generated and coordinated by the Coordinator of the District Advocacy Forum within the framework of the broad policy guidelines provided by the State Advocacy Forum. The Regional Advocacy Forum will provide necessary programme support. The Coordinator of the District Advocacy Forum will be nominated by the President of the State Advocacy Forum in consultation with the Convenor of the Regional Advocacy Forum. The Coordinator will be assisted by the Secretary of the Forum in organizing the activities.

The Secretary will be nominated by the President, State Advocacy Forum in consultation with the Convenor of the Regional Advocacy Forum and the Coordinator of the District Advocacy Forum. As a general policy secretaries of the District Library Authorities will be nominated as the Secretaries of the District Advocacy Forums.

Both the Coordinator and Secretary of the District Advocacy Forum are to be persons of eminence committed to the cause of Education For All. They are also expected to have the qualities of leadership and organizational abilities to inspire, mobilise and organize the people, the institutions and other cultural and material resources in the district towards the achievement of the goal of Education For All. The District Advocacy Forum will also have a core group of active members from various sections/sectors of public life. These members will be identified and nominated by the Coordinator and the Secretary of the District Forum. The Forum thus formed will, in its periodic meetings, deliberate to identify the advocacy activities to promote the cause of Education For All and work out the modalities to implement them.



ACADEMIC POSITIONS AT TISS, BOMBAY

TATA INSTITUTE OF SOCIAL SCIENCES, DEDNAR, BOMBAY-400 088, invites applications for the following posts. Qualifications/Experience requirements and pay scales are as prescribed by the University Grants Commission.

1. READERS:

- a) Two posts in the DEPARTMENT OF PERSONNEL MANAGEMENT AND INDUSTRIAL RELATIONS b) One post in the UNIT FOR LABOUR STUDIES c) One post in the DEPARTMENT OF URBAN AND RURAL COMMUNITY DEVELOPMENT d) One post in the DEPARTMENT OF SOCIAL WELFARE ADMINISTRATION, and e) One post in the UNIT FOR RURAL STUDIES.

2. LECTURER: One post in the DEPARTMENT OF PERSONNEL MANAGEMENT AND INDUSTRIAL RELATIONS (reserved for SC)

The prescribed application form alongwith the details of specialisations and other requirements for the posts can be obtained from the Assistant Registrar (Personnel) either in person between 10.30 a.m. and 12.00 noon and 1.30 p.m. and 2.00 p.m. on working days or by post by sending an application alongwith a stamped (Rs.4.00) self-addressed envelope and application fee of Rs.150/- for Reader and Rs.100/- for Lecturer by Demand Draft drawn in favour of Tata Institute of Social Sciences, Bombay. However, those who are interested, at the first instance, in obtaining separately the details of specialisations and other requirements for the posts can do so in person during the timings mentioned above or by sending a self-addressed stamped (Rs.4.00) envelope to the Assistant Registrar (Personnel). For SC/ST candidates the application form will be supplied free of cost on the production of valid caste certificate.

The completed applications together with copies of certificates should reach the Assistant Registrar (Personnel) on or before 21st July, 1995.

Dr. B.K. Bandyopadhyay
Registrar.

EDUCATION FOR PEACE

Surya Nath Prasad*

History of Peace Education

Today, there are several universities in Europe and America, and also in some parts of Asia, where separate peace research institutes and centres have been established. However, peace education has a long history.

In 1919, The Peace Association of Swedish School was founded. The early tendencies of peace education in Sweden are to be seen as an emanation of the peace movement. Several teachers—many of them women—were engaged in peace movement, propagating for the inclusion of elements of peace ideas in school education. In 1920s and 1930s, the main concern of the teachers involved was to strengthen support of the League of Nations and to counteract tendencies of fascism and nazism by intensified instruction in democracy. At the beginning of 1980s, peace education was once again on the agenda in Sweden.

In Australia, the International People's College at Helsingør was founded in 1921 by Peter Manniche as an experiment in peace education, "a miniature League of Nations". More than 50,000 students have participated in the college courses, and in 1988 the college was designated a "Peace Messenger" by the United Nations.

Adult education for peace was started just after World War II by trade unions and women's organizations in Japan. But in fact, the development in all parts of the country began in 1970s. The contents of adult education for peace were enlarged from the middle of the 1980s.

Peace studies as a major subject at the university level in the United States was first offered by Manchester College in Indiana starting in 1948. It was at least 20 years later before the so called "academic" peace studies began to emerge in the more secular universities in the United States as a response to the

Vietnam War, and especially as a response to the killing of four student demonstrators at Kent State University in the late spring of 1970. Peace studies courses and programmes mushroomed during the 1970s, but tapered off toward the end of the 1970s. Peace studies received a new lease on life in 1980s. A recent survey of this field has been provided by Wein (reported in 1984 in the book *Peace and World Order Studies : A Curriculum Guide*) which includes over 100 course syllabi and a review of over 40 programmes. Today over 200 campuses in the United States have degree programmes in peace and conflict studies.

The University for Peace founded by United Nations on an initiative of Costa Rica at the end of 1970s started working in April 1981.

In India in some selected universities peace studies have been introduced in the discipline of Gandhian Studies. Besides this, Gujarat Vidyapeeth and Jain Vishwa Bharati University also provide M.A. and Ph.D. level courses and studies in peace and non-violence. Recently Jawaharlal Nehru University has created Rajiv Gandhi Chair for Studies in Peace. And the National Council of Educational Research and Training (NCERT) and University Grants Commission (UGC) are working for the inclusion of human rights education at the school and higher levels respectively. They may strive for peace education which includes human rights education also. *Peace Education : An International Journal* was started in 1977. Every issue of this Journal is on the special theme of peace education which has enriched this discipline. Besides this, the author has just completed "Seven Series in Peace Education" with different titles of Peace Education.

Besides educational institutions, several non-governmental organizations throughout the world are teaching about peace. International Association of Educators for World Peace (IAEWP), since its inception in 1969 has been conscientizing the students, teachers, educators, parents, different professional and the people towards peace and encouraging them for the creation of peace ideas, for conducting peace researches and for doing peace activities through its chapters in 83 nations of the world. The IAEWP work as per its motto *Ad Pacem Per Sapientiam* which means

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'To Peace through Wisdom'. For this noble cause of peace, in 1987 the IAEWP was designated as a 'Peace Messenger' by the United Nations.

Need and Importance of Peace Education

Education for Peace is essential for human survival. It is needed for individual, national and global peace. In the world of physical and structural violence, peace education has a great importance because the form of peace education has to be compatible with the idea of peace which excludes both direct and structural violence. Peace education has relevance also in this age of exploitation because it teaches about justice. Peace education is also a necessity in this era of selfishness because it teaches about altruism. Peace education is also significant in today's world of xenophobia and intolerance because it teaches tolerance, respect for diversity, and acceptance of differences. At present peace education is in great demand in the world of violation of human rights everywhere because it conscientizes the learners towards their total situation, and enables them to fight for their liberation.

What is Peace Education

Peace education is a broader discipline. Disarmament education, human rights education, environmental education, education for non-violence, education for international understanding, and global education are the branches of peace education. Peace education concerns with peace ideas, peace studies and peace activities. It deals with conflicts arising out of aggression or war situations, and also arising out of injustice or exploitation. According to Christoph Wulf, peace education deals with conditions within society which foster violence including elements of violence in the family and the school system. Peace education is a science which studies the basic needs of men and women, and the true nature of society in which these needs are to be satisfied, and awares the learners towards human rights and structurally violent and non-violent societies. Peace education enables the learners in creating a culture of peace which helps in building a non-violent and just society. We may regard Peace Education as National Defence Education. Johan Galtung considers peace education national security education.

Aims of Peace Education

The main aim of peace education is to conscientize the learners towards their total situations in which they live. Due to awareness about their oppressive and

exploitative conditions they become capable of initiating efforts to eliminate structural violence which is the cause of physical violence. Magnus Haavelsrud says that conscientization efforts would creative political forces which would be instrumental in the struggle for social justice on global as well as local levels, including changes in the formal education system. The aim of peace education is also to assure the creation of culture of peace. Culture of peace protects all, including those who are afflicted with poverty, sickness, bereavement, unemployment, imprisonment, exile and oppression, and on the whole, it protects the masses from all types of exploitation. According to Christoph Wulf, the aim of peace education is to incorporate into the educational process the dangers posed to human life and human society by war, violence, poverty, and oppression. Personal liberation is the final aim of peace education as it is observed by Robin Richardson. The aim of peace education is to make everyone be friends, correcting genuine injustice or conflicts of interest between them, as is believed by Adam Curle. Betty Reardon says that the purpose of peace education is to provide knowledge to be applied to the problem of reforming and/or restructuring present human society to make it more just and less violent.

Contents of Peace Education

Some peace educators define the content for peace education in terms of international and global problems whereas others define the content in relation to everyday life situations in which the individual is an important actor. However, education for peace involves the principles of problem- posing curriculum. Hence, peace education should be constructed upon the curriculum that aims to teach justice, altruism, tolerance, principles of equity, trusteeship, non-violence, human rights, disarmament, and environmental problems and issues, including other principles of democracy.

Methods of Teaching

Education for peace is more a question of method or form of communication than of content. In fact, peace education is a learning concept, because teaching is violence, learning is peace. Teaching makes the possessors of knowledge a minority and those dispossessed of it the majority. Teaching does not help the students and masses in making them aware, and it serves the purpose of oppressors while learning makes them aware and liberates both the oppressors and the oppressed. Hence, mathetics, not pedagogy, is needed in learning peace. Mathetics is the science of pupil's

behaviour while learning, just as pedagogy is the discipline in which attention is focused on the school master's behaviour while teaching. The term "Mathetics" is coming into use to denote the transition from teaching to learning. Now learning process is replacing the teaching process. Problem-posing not problem-solving, strives for the emergence of conscious and critical intervention in reality. To learn peace through dialogue, the teacher of the students and the students of the teacher cease to exist and new term emerges : teacher - student with students - teachers. Paulo Freire is also in favour of this concept as method. Men learn from each other. No one is the teacher of any one but all are learners. Thus, dialogue method is useful and effective in learning peace.

Unesco Prize for Peace Education

Unesco has instituted Unesco Prize for Peace Education to encourage peace educators, peace institutions and peace organizations. The amount of Unesco Prize for peace education is 50,000 dollars. Unesco has honoured those who have done truly significant work towards awakening the public consciousness and informing public opinion about the problems of war and the possibilities of peace. Unesco, through its international juries, has been selecting laureates since 1981 from among many distinguished and accomplished individuals, institutions and organizations who have made unique and invaluable contributions to peace education.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
June 26-30, 1995	ICDE's International Conference for Distance Education	Theme : One World Many Voices — Quality in Open and Distance Learning	UK Open University, Birmingham	Mr. Alison Forsyth, Conference Planning Manager, ICDE, Conference Office, The Open University, 66-68 High Street, Hartstone, Birmingham, B 17 9 NB, UK.
July 8-14, 1995	IX World Congress of the World Council of Comparative Education	Theme : Education for the Twenty First Century : Cultural Traditions and Educational Modernisation	The China Comparative Education Society and the China National Institute of Educational Research	Secretary, National Institute of Educational Research, Bei-San-Huan-Zhonglu, 46, Beijing 100088, China
July 13-15, 1995	4th International Symposium on the Role of Universities in Developing Areas	The focus will be on the countries of the region; Asia, the Pacific Rim and the Pacific, as well as developing countries in other areas	Royal Melbourne Instl. of Technology, Melbourne	Prof. Tony Adams, Dean, International Programs, Royal Melbourne Institute of Technology, Australia
Dec 20-22, 1995	International Conference on Advances in Mechanical Engineering	To take stock of recent developments and envision future trends in the field of Mechanical Engineering	Indian Institute of Science, Bangalore	Dr. T.S. Mruthyunjaya, Convenor, ICAME, Department of Mechanical Engineering, IISc. Bangalore-560012

The Mainstay of Tertiary Education

Shri Madhavrao Scindia, Union Minister of Human Resource Development, delivered the Convocation Address at the sixth convocation of the Indira Gandhi National Open University, New Delhi. He said, "Without belittling the liberating and ennobling role of conventional liberal education in Humanities, Social and Pure Sciences, it must be recognised that while these inputs must continue to be the mainstay of tertiary education to strengthen the mind and character, adequate supplementary Job Market oriented vocational courses must find an increasing place in the academic agenda." Excerpts

The world today is experiencing unprecedented changes. Spurred by the revolution in the information technology, rapidly increasing international trade, the newly emerging global economy envisages the need for trained manpower and higher and professional education. The Government stands fully resolved to promote education in a planned manner. The task, however, is daunting. Almost half of our population does not enjoy access to even basic education.

Presently, 200 universities in the country can take care of only 6% of those eligible for higher education and this is where IGNOU is playing a vital role with more than two lakh students on its rolls. The Open Universities have been able to lay down the broad framework of a delivery system for taking Distance Education to the end users.

With a 5% growth in student population in the country, the formal education system will soon be grossly inadequate to cater to needs of learning and in providing access to the rapidly increasing fields of knowledge. Open University Education will be a vital aspect of education in future. Distance Education at the tertiary level has a special relevance in a situation like

ours, where we face a dilemma of a very poor tertiary Enrolment Ratio despite the number of Colleges in the country already crossing the 8000 mark. There are serious constraints in carrying on with the horizontal expansion of the existing institutions, and yet a larger segment of young Indians need to be exposed to varied educational courses, not simply to meet the genuine aspirations of those outside the formal education system but also for their self-advancement. The only pragmatic way out of this paradox of enhancing access to university education without abnormally increasing the number of institutions is to have a viable Distance Education system.

There are, unfortunately only three States, Andhra, Maharashtra and Rajasthan which have started their Open Universities. Four other States, Gujarat, M.P., Bihar and Karnataka are yet to make their Open Universities functional. I would call upon all States to immediately make functional an Open University in their respective States.

One of the banes of the current Higher Education scenario in the country is that a fairly large number of University and College

passouts do not have any employment potential. The problem is not one simply of poor quality of education; the issue concerns as much the content of education. I am reminded of what a British humorist once said "*The whole system of education in our country is wrong but fortunately not too many people are affected by it*". With belittling the liberating and ennobling role of conventional liberal education in Humanities, Social and Pure Sciences, it must be recognised that while these inputs must continue to be the mainstay of tertiary education to strengthen the mind and character, adequate supplementary Job Market oriented vocational courses must find an increasing place in the academic agenda.

IGNOU's track record in offering appropriate employment-centered disciplines varying from Management to Nursing, Computer Education to Creative Writing is impressive. This is a wide canvas indeed! It enables the beneficiaries to acquire the most diverse range of skills and abilities which would not only promote their personal well being but would also make a contribution to the existing pool of trained manpower in the country. However, there is more scope for expansion in the number of vocational courses, especially in the field of computer and service sector. It is heartening to note that the course design of IGNOU is finding acceptance with the State Open Universities also. Some of the more progressive State Open Universities, like the one in Nasik, are making their own innovations in the field. The paradigm of academic input delivery system being evolved by the IGNOU should find ready and useful application in the conventional universities also.

I would also call upon IGNOU

to further relax its entry barriers and admission procedures by introducing greater flexibility in basic admission requirements. Removal of pre-entry qualifications for courses and round the year Enrolment instead of once a year needs to be looked into.

Higher Education has always been expensive. It is becoming costlier still. The resources of the State are finite and there are myriad demands on this limited and comparatively static pool. Despite the upward trend of annual allocations, even the relatively well endowed Central Universities have started to experience the painful effects of the economy measures which the Government has introduced in the last few years to contain the overall fiscal deficit. While the proposed step up in Budgetary allocation for Education to 6 per cent of the GDP, should appreciably improve the availability of resources for the Universities, the obvious priority areas for stepped up allocations will be Primary and Non-formal Education, Adult Literacy and Secondary Sectors.

Universities and institutions of Higher Learning have to respond to the challenge of managing their finances in an operationally optimal manner. Government would do all it can to augment budgetary support to such institutions. This does not, however, obviate the need for either the universities exercising utmost economies on 'overheads' and for tapping extra budgetary source of funding. It would be pertinent to recall here that till 1947-48 two major central Universities- BHU and AMU were meeting more than fifty per cent of their expenditure from their own internal resources. There are a number of avenues for resource mobilization such as carrying out sponsored

Projects, Consultancy Services, patenting products, donations and contributions by well endowed alumni, institution of earmarked Chair, etc.

It is heartening that IGNOU has made considerable headway in generating internal resources by adopting a differential fee structure depending on the nature of the courses and by marketing some of the educational softwares developed by the University. It is to be hoped that IGNOU would be in a position to meet most of its non-developmental expenditure from the next Plan period, so that the entire Plan outlay could be utilized for meeting the requirements for expanding the activities of the University and for further strengthening the infrastructure.

In terms of its approach and content, the delivery of Distance Education differs considerably from the conventional system. Mindful of this fact, the IGNOU and other State Open Universities have been kept outside the purview of the University Grants Commission. At present, a "Distance Education Council" operates within the statutory framework of IGNOU to play a coordinating role between various institutions of Distance Education in the tertiary sector. The legal status, scope of operation, and the nature of duties and responsibilities of this organisation need to be more clearly defined. I feel that a challenge before the policy planners within IGNOU is to make this body an effective mechanism for formulating, implementing a planned and strategic delivery system for Distance Education. Education in the country can steer clear of the issue of University autonomy. Universities are self-governing academic institutions. This clearly implies that Universities

can, and should order their own affairs without outside interference in accordance with the norms and policies internally worked out. India is indisputably among the countries which has successfully maintained a high degree of autonomy within their Universities. The Government is committed to this arrangement.

In order that autonomy continues to be lasting feature, the universities need to be accountable. In the context of IGNOU, the accountability of the University to its students community acquires greater urgency and a deeper meaning. While in a conventional set up, the academic life of the institution ensures a close inter-face between the Academics and the learners, the situation is more diffused, in time and space, in the Open University System. Innovative methods and strategies in evolving customized and tailor-made academic packages is the need of the hour. I trust the IGNOU community will be equal to this demanding task.

Another aspect that is peculiar to the Open University System is the provision of research avenues for professional advancement of the University teachers. Teaching and research at the University level being inextricably interwoven, the virtual absence of opportunities for quality research for the teachers of Open University is a cause for concern. With the horizontal expansion of the Open University System, this problem is bound to grow in dimensions. In the long term, the capabilities of University teachers would depend on the extent to which they are able to keep abreast of the latest developments in their fields and their continued association with research activities. I would urge the academic community in the Open University System

to seriously address themselves to this issue so that, in the long term, the morale and professional competence of the teachers in this stream is not compromised.

The process of Distance Education, ultimately depends on optimal use of the *electronic media* for constant communication with the end users of the University services. The hon'ble Prime Minister, Shri P.V. Narasimha Rao dedicated to the nation on 23rd February, 1995, a satellite based development and education telecast facility network with *ISRO Earth Station* which is already at the IGNOU Campus. I have now asked the Department of Education to prepare a plan for a 24 hour dedicated educational channel which will cover all levels of education including *adult literacy, primary, secondary and collegiate education, language courses and vocational courses* and information on job opportunities. Optimal use of this facility should be ensured by the University because scarce resources have been put into these, at the expense of other pressing demands. With financial assistance of more

than Rs. 68 crores from the Japanese International Cooperation Agency (JICA), IGNOU has acquired a formidable array of hardware for Programme Production. The Central Programme Production Facilities of IGNOU are in "live" contact with the Regional Centres of the University across the country. I do hope that this two-way audio-video contact, apart from meeting the managerial needs of the University, is also deployed for the benefit of students who can avail of this facility at the Regional Centres.

The Distance Education System in the country has come a long way. It is an area in which there is great potential for cooperation between the countries of North & South. The IGNOU, I am sure, will stand to gain by its active association with the Commonwealth of Learning (COL) of which we are a founding member. I am happy that the COL has also recognised the vitality of IGNOU, as a leading centre of Distance Education in Asia, by locating their Regional Centre in the IGNOU Campus.

Milestones

* Emergence of IGNOU as one of the ten biggest open universities in the world

* Recognition as the Centre of Excellence in Distance Education by the Commonwealth of Learning (COL)

* Establishment of a Staff Training and Research Institute in Distance Education (STRIDE) with support from COL for the development of human resources at the national and international level

* Establishment of the Commonwealth Educational Media Centre of Asia (CEMCA) at IGNOU by COL to promote multi-media use in distance education

* Availability of television channel on extended C-band with uplink facility at IGNOU campus under the IGNOU-ISRO joint project with one way video and two-way audio for training and education through distance education

* Development of modern facilities for audio-visual production by the Communication Division of IGNOU with support from the Japan International Cooperation Agency (JICA) worth Rs. 68 crore

* Establishment of the Distance Education Council (DEC) for the coordination, promotion and maintenance of standards in the open and distance education system in India

Programmes

The range of educational programmes offered by IGNOU covers areas in Humanities, Social Sciences, Sciences, Applied Sciences, Computer Applications, Rural Development, Health Sciences, Management, Education and Engi-

Excerpts from the Report

by

Ram G Takwale

Vice Chancellor, Indira Gandhi
National Open University, New Delhi

Goals

IGNOU is trying to establish itself, without having any well-trodden path to follow, by developing innovative ways and means and by responding to the diverse needs and aspirations of the people of India. The major goals of IGNOU are to develop itself into :

* A National Open University

* A National Apex Body for promotion, coordination and determination of standards of distance education systems in the country

* Centre of excellence in distance education for promotion of distance education in developing countries.

neering & Technology. The University offers 58 programmes with 372 courses.

The following new programmes are launched or are under development:

Launched from January 1995

- Diploma in Early Childhood Care and Education

New Programmes to be offered in 1996

- Master's in Computer Applications
- PG Diploma in Journalism & Mass Communication
- Bachelor's Degree in Computer Applications
- Diploma in Tourism Studies
- Certificate in Computing
- Bachelor of Education (B.Ed.)
- Diploma in Primary Education
- Consumer Studies (awareness programme)

In connection with the establishment of a School of Legal Studies, a Committee was appointed for working out and recommending details of programmes in legal education and it had submitted its report, which is being examined.

A training programme for the elected members of the Panchayats is being developed in collaboration with the Ministry of Rural Development.

Admissions

As on 1st January 1995, IGNOU has an admission strength of 91,398 and more than 2.41 lakhs students on its enrolment. Majority of our students (about 62%) are employed and fall in the age group of 25-30 years. However, the percentage of female students is 22.5%,

rural students is 23% and SC/ST students is 7%.

Student Services

At present there are 16 Regional Centres and 244 Study Centres covering the whole country. The Study Centres are the contact places where counselling and other student support services are received by a student. The university also established Study Centres in Tihar Jail, New Delhi, a Sub Centre in Sabarmati Jail, Ahmedabad and the Central Jail in Bangalore. The demand for Study Centres is growing not only in meeting the regional requirements but also for catering to the specific programmes in computers, engineering and technology, nursing and library sciences. For these specialized professional and technological courses 78 Work Centres have been established during the year. In all these Study and Work Centres nearly 82,000 counselling sessions are organised with the help of 620 coordinators and assistant coordinators and by utilising the services of nearly 12,800 academic counsellors. During the year 927 counsellors have been given orientation training in distance education.

A policy decision has been taken to decentralise the student support activities to the Regional Centres. The Regional Centres will be strengthened and assigned student services and related functions through a computer network for efficient and quick flow of information.

Evaluation

IGNOU has adopted an evaluation pattern which gives 25 per cent or more weightage to the formative evaluation and the rest to the term end examination. The Evaluation Division during the year handled 5,66,000 assign-

ments (both TMAs and CMAs) and 85,183 answer books of 47,468 students, who appeared for examinations at about 200 Study Centres all over the country.

Distance Education Council

The Distance Education Council (DEC) was established with the objective of promotion, coordination and maintenance of standards in distance education. It has formulated guidelines for the establishment of state open universities, norms for mutual recognition of programmes and courses, credit transfer, etc. The DEC has also set up Quality Assurance Panel to recommend measures to ensure acceptable quality in distance education.

STRIDE

During the year Staff Training and Research in Distance Education (STRIDE) has provided support to Schools of Studies in instructional design, staff development and programme evaluation. It reviewed over 60 units of various courses for making their formats and presentation self-instructional. It also organised seven in-house Orientation Programmes for non-academic staff and training-cum development workshop for academics. The STRIDE in collaboration with COL organised an International Workshop on Training Needs in Distance Education to work out a training plan for distance education institutions in the Asian region for the period 1994-97. Representatives from SAARC countries participated in the Workshop.

Under the Rajiv Gandhi Fellowship Scheme instituted by the COL, 81 students from 18 Commonwealth countries have been admitted to PG Diploma in Dis-

tance Education. Besides this, a proposal has been received through COL from the South African Government to sponsor 100 students to study MBA (50) and Distance Education (50) programmes.

Quality Assurance Cell

The university has established a quality assurance group to evolve built-in quality-ensuring measures. Programme evaluation and academic audit are slowly being introduced as a systemic function in the university.

Library

IGNOU has a well equipped central library and documentation facilities with a collection of 49,428 books and 412 journals. The university also maintains libraries at

Regional and Study Centres by providing 2,20,964 books for reading and reference purposes. The IGNOU library is computerised and linked with DELNET and uses CD-ROM data bases to provide bibliographic information.

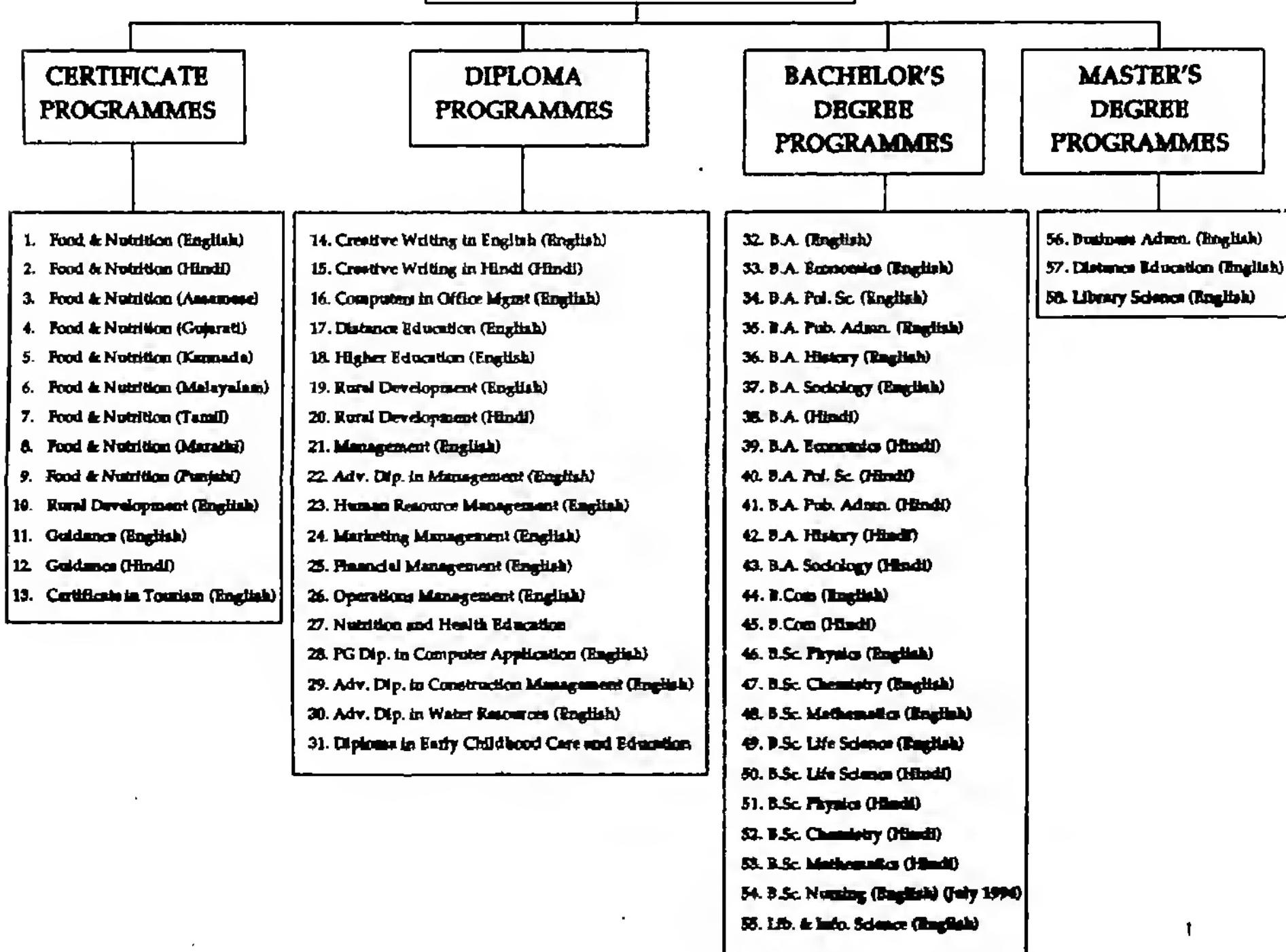
AAOU Conference

IGNOU had the privilege of hosting the VIII Annual Conference of the Asian Association of Open Universities from 20-22 February 1995. It was attended by delegates from open universities and open learning institutions from 17 Asian countries and the UK. Nearly 80 papers were presented in the conference on the theme of "Structure and Management of Open Learning Systems".

Open Education Network

The role of IGNOU as an apex body has to expand substantially through Distance Education Council by evolving open educational network encompassing all the state open universities and the 46 correspondence course institutions in the country. The open education network should be so developed as to offer a rich pool of high quality educational programmes, multi-media support and educational services of highest quality and deliver them to the students at or nearby their living or working places. Further IGNOU has also to fulfil its obligation to the people of the third world Asian countries by extending the benefits of its educational resources and expertise.

PROGRAMMES ON OFFER - 1995



Funding of Science and Technology

There has been a global concern regarding financial support for scientific research and education. Seized of this problem for quite some time the Indian National Science Academy (INSA) organized, as a part of its Diamond Jubilee celebrations, a discussion meeting on 'Funding of Science and Technology: Research and Education'. The meeting was chaired by Professor M.M. Sharma, Director, University Department of Chemical Technology (UDCT), Bombay. Professor D.V. Singh, Director, Central Road Research Institute welcomed the participants and in the introductory remarks reasoned why the society should support science. He emphasized on the symbiotic relationship between economics and technology.

Professor Sharma mentioned that 50% of the economic growth would be directly linked to the technological improvements. In the emerging world order, technology will be zealously guarded by the owners and in any case even to buy technology a high level of preparedness was required. In his keynote address, he stressed that technological developments were not possible without an intensive involvement in basic research and in the recent years the differences between pure and applied research have, in many ways, vanished. "It is necessary for politicians to realise that prosperity depends a lot on our ability to be innovative".

Professor Sharma said that research in educational institutions bestowed three layers of benefit: value of research, favourable effect

on postgraduate research, and higher quality undergraduate education. According to him research and development was really an ideal factory and there was unquestionably an element of "random walk". The most crucial point was that R&D required a long term commitment at the highest level and the weakest link of the uninspired middle management had to be checkmated. Further, what is really required was a leader and not a manager. Additional problems arose out of need for pilot plants or prototypes to get information of vital importance on imponderables. Here it became very difficult to justify investments on the basis of discounted cash flow (DCF) calculations. There was always an element of risk, and winners were those who took up such endeavours even though the success rate may not be very high. "This is poignantly brought out in any drug development where potential blockbusters may 'bust' you off!"

Professor Sharma felt that there should be a link established between the innovator and the user. This culture had to be further nurtured by giving more autonomy to the laboratories. Laboratories which were over 15 years old required one-time capital to acquire or update core facilities without which contemporary R & D was not feasible as time was also a vital factor. A separate fund for S&T should be earmarked to get more out of the existing assets and this applied to good educational institutes where the intake can be increased by 20 to 35% at a marginal

cost and that too quickly. We should aim at a decent contribution to the budget of some selected laboratories through this mode. All types of research organisations, including educational institutions, required a separate support for patenting innovative ideas.

According to Professor Sharma, industry did require an outside stimulus and this was evident from all renowned companies which had outside consultants even though their own expertise was of a high order as they reckoned consulting as augmentation of their expertise and recognised this on an "alerting" mode. "Funds are always scarce but even more scarce are persuasive and convincing arguments, and innovative ideas for research".

He also commented on the generation of funds through a substantial raise in fees. He suggested the possibility of safeguarding the interest of the economically weaker sections of the society by providing freeship to 10% of the total intake and highly concessional loans, in the name of the wards, to 15% to 20% of the intake. Further, philanthropists should be approached to create endowments to give merit-cum-means scholarships. In order to provide a fillip to fund-raising by educational institutions, at least 25% of the funds collected be added by Government of India to the corpus funds of the institution.

Professor (Mrs.) Chariya R Brockelman of The Science Society of Thailand, Bangkok, spoke on Funding of Science and Technology, Research and Education in Thailand. The National Research

(Contd. on page 24)

HUMAN RESOURCE

CENTRAL GOVERNMENT PLAN OUTLAY ON SELECT SOCIAL SERVICES

(Rs cr)

Sl No	Item	1990-91 (Actuals)	1991-92 (Actuals)	1992-93 (Actuals)	1993-94 (BE)	1993-94 (RE)	1994-95 (BE)
1	Education, arts and culture	965	993 (2.90)	1175 (18.33)	1489 (26.72)	1512 (1.54)	1749 (15.67)
2	Health and family welfare	1037	1101 (6.17)	1531 (39.06)	1753 (14.50)	1780 (1.54)	2008 (12.81)
3	Water supply, sanitation and housing	718	845 (17.69)	690 (-18.34)	1043 (51.16)	1060 (1.63)	1305 (23.11)
4	Information and broadcasting	154	112 (-27.27)	51 (-54.46)	75 (47.06)	64 (-14.67)	61 (-4.69)
5	Welfare of SC/ST and OBC	344	414 (20.35)	479 (15.70)	558 (16.49)	589 (5.56)	632 (7.30)
6	Labour and labour welfare	20	69 (245.00)	63 (-8.70)	160 (153.97)	65 (-59.38)	126 (93.85)
7	Social welfare and nutrition	359	413 (15.04)	605 (46.49)	652 (7.77)	661 (1.38)	735 (11.20)
8	Total	3597	3947 (3.4)	4594 (3.5)	5730 (3.7)	5731 (4.4)	6616 (4.3)

Notes : 1 Figures in parentheses under items 1 to 7 indicate percentage change over previous year.

2 Figures in parentheses under item 8 indicate percentage to GDP.

Source : K. Seeta Prabhu. The Budget and Structural Adjustment with a Human Face.
Economic and Political Weekly April 16-23, 1994.

DEVELOPMENT DATA -1

PUBLIC SECTOR OUTLAYS ON HEADS OF DEVELOPMENT

(Rs crore)

Sl. No.	Period	Total (All Heads of Deve- lopment)	Education	Health	Family Welfare	Sub total (5+6)	Water Supply and Sanitation
		(3)	(4)	(5)	(6)	(7)	(8)
1	First Five-Year Plan (1951-1956)	1960.00 (100.0)	133.00 (6.79)	65.20 (3.3)	0.10 (-)	65.30 (3.3)	11.00 (0.56)
2	Second Five-Year Plan (1956-1961)	4620.00 (100)	208.00 (4.50)	140.80 (3.0)	2.20 (0.1)	143.00 (3.1)	74.00 (1.58)
3	Third Five-Year Plan (1961-1966)	8576.50 (100.0)	418.00 (4.87)	225.90 (2.6)	24.90 (0.3)	250.80 (2.9)	458.90 (2.9)
4	Fourth Five-Year Plan (1969-1974)	15778.80 (100.0)	822.66 (5.21)	335.50 (2.1)	278.00 (1.8)	613.50 (3.9)	458.90 (2.9)
5	Fifth Five-Year Plan (1974-1979)	39426.20 (100.0)	1285.00 (3.26)	760.80 (1.9)	491.80 (1.3)	1252.60 (3.2)	1091.60 (2.8)
6	Sixth Five-Year Plan (1980-1985)	97500.00 (100.0)	2523.74 (2.59)	1821.05 (1.9)	1010.05 (1.0)	2831.10 (2.9)	3922.00 (4.0)
7	Seventh Five-Year Plan (1985-1990)	180000.00 (100.0)	6382.65 (3.55)	3392.89 (1.88)	3256.26 (1.80)	6649.15 (3.69)	6522.47 (3.62)
8	Eighth Five-Year Plan (1992-1997)	434100.00 (100.00)	21319.02 (4.91)	7575.92 (1.75)	6500.00 (1.49)	14075.92 (3.24)	16711.03 (3.85)
9	1992-93 (RE)	77127.40 (100.00)	2993.33 (3.88)	1276.29 (1.65)	1041.02 (1.35)	2317.31 (3.00)	2194.53 (2.85)
10	1993-94 (BE)	100120.16 (100.00)	3983.59 (3.98)	1622.18 (1.62)	1270.00 (1.27)	2892.18 (2.89)	2944.96 (2.94)

- Note :** 1. Figures in parentheses indicate percentage to total.
 2. Education includes general education comprising primary, secondary and university education, technical education, art and culture and sports and youth services.

Council of Thailand, established in 1955, presently managed only 0.3% of the total local funds. The Ministry of Science and Technology and Environment funded research only in biotechnology, materials science, computer science and electronics. Environmental Science was being neglected and there was a shortage of research funds due to administrators' misconception that biology had already been covered by biotechnology. There was a need for change in national policy so that more high school teachers could be encouraged to dedicate themselves to the teaching of the sciences.

Professor Philippa Black, President of Royal Society of New Zealand spoke about the recent transformation of the ably controlled infrastructure and funding mechanisms for technology education research into a system totally dependent on market forces. She agreed that scientific and technological education and research held the key to a nation's development and to improving the socio-economic status of its population. National education and research funding policies were usually strongly influenced by one or the other of two contrasting political philosophies. The first held that it is the State's responsibility to invest in and improve its human capital with the emphasis tending to be on long term benefits. The second, held by many western countries (including New Zealand), was that individuals should invest in their own future, market forces should influence what was taught, and the State should only fund those research areas that it considered to be in the immediate public good; this model tended to emphasise short-term benefits. The different models

produced quite widely differing educational and funding philosophies which in the long-term will profoundly influence the status and well being of science and technology in the country.

Dr. E Hyock Kwon, President of the National Academy of Science, Republic of Korea, spoke on Policy and Funding of Science, Technology, and Human Resource Development in Korea. According to him, as competition for expanded trade and new technologies to support industrial activities had grown, Korea was placing top priority on technological development. He took the audience through a short summary of policy and funding for science, technology and human resource development of Korea. He also mentioned about certain long term projects such as the HAN R & D Project and ERC/SRC programmes, and also presented certain ongoing programmes such as Brain-pool system and diverse efforts to boost the university R & D activities.

Professor R R Daniel, Secretary, COSTED-IBN, Madras said that the role of S & T in the sustainable development of nations in the 21st century was expected to be even more dominating than in earlier times. The economically advanced countries had been striving continuously to reorganise and reform the S & T education and research base to suit the needs of the country in the context of the national and international situation. This had been a key factor in their industrial leadership and economic development. All this had been very much facilitated by the mix of funding sources involving the government, industries and philanthropic bodies. In contrast, in India and other developing coun-

tries, S & T education and research was still almost exclusively dependent on government funds which were not only grossly inadequate but in many cases erratic and without long term planning. If these countries were to meet the challenging needs of the future to build up a self-reliant scientific manpower and to utilise technology for national development in the face of global competition, they must first plan and strengthen their base in science and technology education and research. Though the major responsibility for policy decisions, setting up suitable agencies and structures and providing assured funding did rest with the government, these must be facilitated and strengthened by the active contribution of industries, and the participation of scientists and educators in planning. International co-operation and funding would also be an essential constituent in the proper choice and implementation of plans, methods and strategies appropriate for each country. Every developing country must act expeditiously in this matter to ensure that it participated effectively in this endeavour to build an S & T capacity for national development.

Professor T C Yap of the Department of Agronomy and Horticulture, University Pertanian, Malaysia spoke about the "Intensified Research in Priority Areas" (IRPA) Research Fund established in 1988. IRPA has helped all the scientists and researchers in Malaysia working in the field of agricultural, industrial, medical, social and strategic projects. The Fund has also made a great impact in improving the research atmosphere in Malaysia.

Professor Widmar Tanner, Vice President, Deutsche Forschungsgemeinschaft (DFG) informed

that research at German Universities was institutionally funded by the governments of the 16 Lander (States) of which 5 were the so-called new ones after unification. The major funding agency for additional support is the Deutsche Forschungsgemeinschaft (DFG) which is financed mainly by the Federal Government and 16 States. DFG performed this task as an autonomous body within the German scientific community, electing the academic members to its own organs, where they enjoyed a majority in each decision-making body. It laid particular emphasis on support for young graduates. In 1993, the DFG was able to distribute 1.63 billion DM within its individual programs. The activities of DFG's elected reviewers provided the actual basis for its financial support for research projects, and it was to their reviews that the Grants Committee referred when taking its decisions.

Professor Rama Rao, Secretary, Department of Science & Technology, informed about the funding available for research from various Government agencies and the role they played in the development of S&T in India.

Professor Suematsu of Japan Society for the promotion of science outlined funding schemes for supporting basic research in science and technology in Japan. He talked about systems for promoting scientific research and gave a brief summary of Research Institutions and affiliated researchers in Japan. He elaborated schemes regarding expenditure in S & T research with reference to government budget, science and technology, research grants, university-industry cooperation and international scientific institution. Finally, he also discussed the scholarship made avail-

able for Junior Scientists.

Professor Roddam Narasimha, of the Centre for Atmospheric Sciences, Department of Aerospace Engineering, Indian Institute of Science, Bangalore said that India continued to have the dubious distinction of an apparently industrializing country in which the investment in R&D as a fraction of GNP was declining (0.83% in 1992-93, down from 0.85% in 1990-91). Taken together with the low investment in education, it would appear that the contribution of education and technology development to the creation of national wealth was seen by the political and industrial leadership as marginal. The reasons for this perception were analysed in the paper, especially in the light of the wide agreement in the country that in areas that have received strong public support till now, such as agriculture, space, defence and parallel computing, it had been demonstrated that technology development in the country could be very cost-effective. This paradoxical situation could only be explained on the premise that a policy framework for technology development in non-strategic sectors had eluded the country. The initiation of reforms towards a free-market economy remained incomplete in this respect, and "the lack of a well-understood technology policy for the country threatens the emergence of India as the major player in global markets that it has the potential to become."

The presentations were followed by a lively discussion in which Professor P N Srivastava, Dr S Varadarajan, Professor B K Bachhawat, Dr S S Kapoor, Professor M S Kanungo, Dr. M S Bamji, Professor Prem Narain, Professor P N Tandon, Sir Michael Atiyah, Dr V G Bhide, and Professor Esaki participated.

Orientation Course for Teachers

The Academic Staff College of Jawaharlal Nehru University recently organised the 16th Orientation Course for teachers. The programme was inaugurated by Prof. G. Ram Reddy, Chairman of the Indian Council of Social Science Research (ICSSR) and attended by over 40 participants drawn from all over the country.

The main themes covered for lectures, discussions and seminar presentations included Higher Education in India, Teacher as Agent of Social Change, New Education Policy, Education in the Twentyfirst Century, Right to Education, Non-formal Education and Distance Education, New Economic Policy, The Indian National Movement, Communalism in India and Nation-Building and Social Change, Role of Law, Media, Communication and Literature in Social Change. Problems relating to Communalism, Tribes, Scheduled Castes, OBCs, Women, Population were diagnosed in detail. Some topics such as Privatization and Dunkel Proposals too were discussed with the participants in a dialogic manner.

Eminent scholars, namely, Professors Y.K. Alagh, M.S. Agwani, Ramkrishna Mukherjee, Bipan Chandra, Yogendra Singh, C.P. Bhambri, G.S. Bhalla, Prabhat Pattnaik, Kuldeep Mathur, R.K. Jain, P.C. Joshi, Indra Deva, Dipankar Gupta, Andre Beteille, Suresh Shukla, Namvar Singh, Sushila Kaushik, C.K. Varshney, G.D. Sharma, C.J. Dashwani, M.B. Menon, Arun Kumar, Karuna Chanana, Pandav Naik, Sudha Rao, Nirmal Singh, Mushirul Husain, G.K. Chadha, Amitabh

Kundu, Arun Kumar, Aditya Mukherjee, Sudesh Nangia, Nirmal Singh, J.S. Gandhi, Kiran Segal, A. Ahmad, K.G. Virmani, S. Mohanty, H.C. Narang, Anand Kumar and S.K. Das delivered lectures and conducted discussions and seminars organised during the programme. The valedictory address was delivered by the noted historian Prof. Sabyasachi Bhattacharya of JNU and former VC of Visva-Bharati.

The Staff College proposes to organise 18 programmes (4 Orientation and 14 Refresher Courses) during 1995-96 covering the disciplines of Economics, Political Science, Sociology, History, Hindi, Life Sciences, Environmental Sciences, Biotechnology and Computer Applications.

5-Year LL.B (Professional) Course

The Kurukshetra University proposes to introduce LL.B. (Professional) Five-Year Degree Course from the next academic session starting in July. The course is open to the candidates who have passed 10+2 examinations. This was revealed by Prof. B.S. Dahiya, Vice-Chancellor, Kurukshetra University.

The proposed course shall be professionally oriented. During the course, the study will not only merely be confined to the classroom lectures but the students shall be taken to the District Courts, High Court and the Supreme Court and would be equipped with the art of advocacy, skill of presentation and would be trained in court-room manners. They shall also be attached with the senior lawyers. This process shall be compulsory and will also be evaluated from time to time. They would be associ-

ated with actual functioning of the Courts as trainees at all levels. The students of the new course would witness administration of justice in action as an inbuilt part of the course.

Prof. Dahiya disclosed that the moot court and debate would be an on-going programme of the proposed course throughout the year. These on-going programmes would enumerate in annual event of Moot Court and Debate competitions which had already acquired national status, he added.

Professor Kr S K Singh, Dean, Faculty of Law while explaining the course contents and other details of the Five-Year Degree Course said that innovative and socially relevant subjects like Consumer Justice, Environment Protection, Law Relating to Human Rights, Law Relating to Rights of the Child, Criminology and Criminal Administration etc would be introduced for the first time in the proposed course. The course content, he added, had been designed with inter-disciplinary approach to law teaching as to meet the challenges of the complex problems of the Society so that the gap between "Law in the books and Law in action" would be reduced to minimum. Accordingly, students after passing out would be well equipped to practise law from the day they joined the Bar.

The University Teaching Department of Law, has also extended its expertise to Police Training College (PTC), Madhuban as an Extension Centre for Criminology and Forensic Science. In this programme, faculty would be provided to the Police Training Centre by the University to give academic input to all the courses at different levels of training to the police personnel of Haryana. Besides teach-

ing law, faculty will also be provided by the University in other subjects like Sociology, Psychology and Criminology.

It may be mentioned that it is perhaps for the first time in the country that such collaboration has been made between the Department of Law and any Police Training Centre, which envisages not only the teaching of Criminology and related sciences to the police trainees as a part of their general curricula but would also post them with the various latest developments in the newer areas like white collar crimes and socio-economic offences.

Professor Dahiya observed that this project would equip the Haryana Police personnel with calibre and quality to meet the new challenges effectively.

M.A. Economics (International) Programme

A new two-year Master's Programme in Economics (International) is proposed to be introduced in Jawaharlal Nehru University (JNU) from the forthcoming academic session 1995-96. The purpose of this new programme is to provide a sound theoretical background in the principles of Economics and to equip the students with analytical tools for understanding the evolution of the world economy. Special emphasis will be placed on global issues like environment, technology generation and transfer and information economics.

The new programme is being introduced in the international trade and development division which is a part of the Centre for Diplomacy, International Law and Economics at the School of International Studies at JNU.

The students admitted to the Master's programme will be permitted to utilise the curricular and research facilities of other Schools of the University. The eligibility required for admission to this programme will be a Bachelor's Degree under 10+2+3 pattern of education with Economics or Statistics or Mathematics as main subject with at least 50% marks.

The admission will be through an Entrance test which is intended to evaluate the knowledge of candidates in micro economics, macro economics, mathematics and statistics.

Refresher Course in Communicative English

The Regional Institute of English, Chandigarh recently organized a one-month Refresher Course in Communicative English for the lecturers of colleges affiliated to the Panjab University teaching communicative English in the vocational stream. As many as 17 lecturers participated.

As one of the 35 subjects introduced by the UGC under its programme of the vocationalisation of education, the course in Communicative English is a job-oriented one aimed at preparing the young learners for self-employment as well as for employment in the new fields that are continually opening up as a result of rapid advances being made in the world of trade, commerce, communication, public relations, etc.

In order to equip the young boys and girls with the necessary linguistic competence to successfully meet the challenges of these new areas of employment, the primary focus of the syllabus for Communicative English as also of the Refresher Course organized at

the Institute was on the four skills of language learning viz. Listening, Speaking, Reading and Writing. The participants were given intensive training in the disciplines of Phonetics/Phonology, Grammar, Conversational English, Reading and Writing. Some of the topics covered in the different areas of language included the Mechanism of Speech, Effective Speech, Conversational English, Sub-skills of Writing, Cohesion and Coherence in Writing, Relevance of Discourse Markers, Precis-writing, Comprehension, Commercial Correspondence, Note-taking, the Relationship of Time and Tense, Error Analysis, Transformation, Transitive/Intransitive verbs, etc.

How the Communicative language teaching differs from the Traditional approaches to language learning constituted the core of the methodology. The participants learnt the advantages of Communicative language teaching in the right perspective.

Visits to the Technical Teachers Institute, Chandigarh and the Chandigarh station of All-India Radio were organized to enable the participants to acquaint themselves with the latest happenings in the field of need-based material production and broadcasting.

An Exhibition of books on Communicative English was also organized and a catalogue of books on the subject available in the RIE library and another catalogue of other books on Communicative English was circulated.

Colleges and Vocationalisation

The Academics Committee, Hyderabad (Sind) National Collegiate Board, in collaboration with National Institute of Educational

Planning and Administration (NIEPA) and Bombay University, organised a seminar on "Planning and Management of Colleges with a Focus on Vocationalisation" for Principals, Vice-Principals and Senior Staff of the Colleges of the Board. With the UGC having introduced Vocationalisation at the First Degree Level in the current year the topic of the Seminar was indeed very timely.

Inaugurating the seminar, Mr. Inderjit Khanna, Secretary, UGC, pointed out that Vocationalisation at the First Degree Level was introduced to enhance the quality of education and to reduce the gap between education and employment. The response to the scheme, he said, was encouraging and 19 Universities in the country were covered under this programme. Dr. Sethumadhav Rao, Joint Secretary, UGC explained the administrative issues in Vocationalisation.

The highlight of the Seminar was the sharing of 'Bombay Experience' by the Principals of the Bombay Colleges who have been selected for Vocationalisation. Dr. V N Gupchup, Pro-Vice-Chancellor, who chaired one of the sessions, added to the Bombay Experience by sharing the experience of South India Colleges on vocationalisation. There were two very interactive academia industry sessions where industrialists and professionals discussed the various issues involved in the implementation of this Scheme in practice. The NIEPA faculty Dr. G.D. Sharma and Dr. Jaya Indiresan gave valuable directions to the discussions at the seminar. A session on "Synergy and Empowerment" was also organised by HRD specialists.

The three-day seminar discussed in detail the issues relating

to the identification of the vocational subjects, selection of students for the course, identification of teaching material, training of teachers and organizing on-the-job training. The need for a full time Co-ordinator for each vocational subject was strongly emphasized.

The Seminar was co-ordinated by Prof. (Mrs.) Indu Shahani, Vice-Principal of H.R. College and the Co-ordinator of the Academics Committee by the Hyderabad (Sind) National Collegiate Board.

Chemopollutants and Sustainable Ecosystems

The 16th Annual Session of the Academy of Environmental Biology (AEB) is proposed to be held at Hyderabad during 23rd-25th November, 1995. A symposium on "Chemopollutants and Sustainable Ecosystems" will be organised during the session. A Theme discussion on "Environmental Education & Ecomanagement" is also planned. Besides, a BRPM Competition will be held to promote, encourage and reward the young talented scientists of the country.

The topics proposed to be discussed include (1) Fate of Agrochemicals in soil, water and atmosphere, (2) Domestic and Industrial waste disposal, (3) Natural and man made radiations and Environmental Biology, (4) Impact & Risk assessment studies of Agrochemicals & Radiations, (5) Aquaculture associated Hazards, (6) Marine pollution, (7) Pollution monitoring Role of Bioindicators, (8) National Ecological Conservation policy, (9) Fragile Ecosystems — Conservation problems, (10) Agroexports & Pollutants, (11) Ecomanagements — Safeguards & Solutions, and (12) Biodiversity & Environmental Pollution.

The technical sessions of the symposium and BRPM Competition will highlight the impact of hazardous chemicals, advanced technologies and role of Science and Technology on topics identified. An exhaustive scientific programme is planned.

Further details may be obtained from Dr. B. Narasimha Rao Organising Secretary, 16th Annual Session of AEB, Professor of Entomology, A.P. Agricultural University, Hyderabad - 500 030 (A.P.) OR Dr. R.C. Dalela, Secretary (HQ), The Academy of Environmental Biology, 771, Civil Lines (South), Muzaffarnagar-251 001, India.

Dibrugarh Varsity Refresher Courses

The University Grants Commission (UGC) is reported to have allocated refresher courses in Assamese, Geology, English and Commerce, to be conducted by the Dibrugarh University (DU) during the academic session 1995-96.

It may be mentioned that DU is one of the non-academic Staff College Centres recognised by the UGC for conducting refresher courses in six subjects last year, benefiting a large number of college teachers of the North Eastern Region in particular.

DU is the only centre in the country to conduct refresher courses in Assamese.

The following course coordinators may be contacted at the university for further details : Prof Nagen Saikia for Assamese, Sri A C Goswami or Smt Tillottama Misra or Prof Pona Mahanta for English, Dr D K Pandiya or Dr Pranjali Bezbora or Prof A R M Rahman for Commerce.

Lecturers with a minimum five years' teaching experience in colleges/universities (in case of colleges, these must be included in the list of colleges under section 2(f) of the UGC Act) are eligible to participate in the refresher courses. Selected participants will be paid TA and DA according to UGC norms.

B.P. Pal Fellowship

Prof. Raghavendra Gadagkar, Chairman of the Centre for Ecological Sciences, Indian Institute of Science, Bangalore has bagged the first B.P. Pal National Fellowship Award for biodiversity. Instituted by the Ministry of Environment and Forests in memory of late Prof B.P. Pal, former Director General of the Indian Council of Agricultural Research and Chairman of the National Committee on Environmental Planning and Contingency Grant, the award carries a two-year Fellowship and contingency grant worth Rs. 1.68 lakh. The Fellowship is to focus attention on the vital role played by biodiversity in long term food security and human survival. This prestigious Fellowship is given every year to an Indian scientist in recognition of his work in this field.

Pitambara Pant Award

The Pitambara Pant Award for the year 1995 has gone to Dr K.C. Jayaram of the Madras Science Foundation. After retirement as Joint Director from the Zoological Survey of India in 1986, Dr Jayaram is presently working at the foundation as the project director for integrated environmental research project on the river Kaveri.

During the tenure of the Fellowship, Dr Jayaram will work on the project "State of art on the endangered mahseer fishes of South India." Dr Jayaram will get the two-

year Fellowship and contingency grant worth Rs. 1.68 lakh.

The award is to focus attention on the increasingly vital role

played by environmental sciences in improving our capacity in environmental protection and conservation.

News from Agricultural Universities

Rice of the Future

Jawaharlal Nehru Krishi Vishwa Vidyalaya has designed a new rice plant-type which is similar to the green-revolution semidwarf rice. While semidwarf rice varieties produce a large number of tillers per plant that are thin, weak and highly variable in size, the new type produces a low number of tillers per plant which are very thick, sturdy and highly synchronous in non bearing. Unlike semidwarf varieties which produce upto 40 per cent non bearing and, therefore, wasteful tillers, the number of non productive tillers is less than 10 per cent in the new type. The new rice plants produce mas-

sive panicles which outweigh panicles of the semidwarf rice variety IR 36 by three-and-a-half times.

The new rice have been found to have nearly 50% higher productivity than IR 36. Their maximum yield too is expected to be 50% more than that of the semidwarf varieties which is about 10 tonnes per ha. Dr. M.P. Janoria, Rice Breeder, Department of Plant Breeding & Genetics, College of Agriculture, JNKVV, said that attempts were underway at JNKVV to expedite the passage of the new rice from research plots to the farmers' field.

News from UGC

Countrywide Classroom Programme

Between 1st July to 7th July, 1995, the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The Programme is presented in two sets of one hour duration each every day from 6.00 a.m. to 7.00 a.m. and 1.00 p.m. to 2.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

6.00 a.m. to 7.00 a.m.

1.7.95

"Tennessee Williams - The Humane Dramatist : The Glass Menageries Revisited"
"Environmental Odyssey"

2.7.95

"Bookfare"

"Rembrandt"

"The Week Ahead"

4.7.95

"The Chola Temple Quartet - Part I"

"Current Affairs : Economics and Commerce - Part 9"

"Yours Sincerely"

6.7.95

"Oxidation Number First Principle"

"The College of Combat : Defence Services Institute of Leadership and Warfare - Part I"

Hindi Transmission

1.00 p.m. to 2.00 p.m.

1.7.95

"Bookfare"

"The Language of Cinema"

"The Week Ahead"

2.7.95

No Telecast

3.7.95

"Oscillation - An Introduction"

"Current Affairs : Economics and Commerce - Part 9"

"Yours Sincerely"

4.7.95

"Chemistry of Vision"

"Need to Reshape Election Laws"

"Oxygen Radicals and Antioxidants - Part IX : Vitamin E - An Important Antioxidant"

5.7.95

"L'emmental Quel Talent!"

"Indo-Roman Trade - I : Bronzes and Glass"

"Poverty Alleviation Programme"

6.7.95

"First Meal of the Day"

"Making of a Newspaper - Part V : Photography"

"A World of English"

7.7.95

"Breaking the Sound Barrier"

"L'impulsion"

"Degraded Eco-system"

Hindi Telecast

प्रातः 6.00 से 6.30 बजे तक

3.7.95

"स्नेह निर्झर बह गया है"

5.7.95

"स्वच्छ जल परिस्थिति की"

"अनाज का वैज्ञानिक भंडारण"

7.7.95

"संवेदना-एक संजीवनी"

A SINCERE EFFORT

D.P. Shukla*

K.L. Narayana, P. Kannaiah and K. Venkata Reddy. Engineering Drawing for Mechanical Trades — First Angle Projection. New Delhi, Tata McGraw Hill, 1994. Pp. 193. Price Not Stated.

Authors have taken great pains to bring out simple yet a comprehensive text book on technical Drawing for craftsmen who are directly engaged in manufacture of engineering components and installation of plants and equipments.

An engineering industry whether of small, medium or of big size employs skilled workers to perform the specialised job of manufacturing components and giving it the desired shape and dimension to meet the functional requirement successfully. The general educational background of such workers is relatively low but they are most proficient in their trade. Production of components involve input from various levels, starting from conceiving and designing the product to the final finished form. In this system hierarchy, people of different temperament, skill, educational background, and speaking different languages are involved. The only common link between them is the component drawing, sub-assembly drawing, assembly drawing or the layout drawing of the plant and equipment and provides the most effective channel of communication between all those who are directly or indirectly involved in the manufacture of the component or layout and installation of

the plants and equipments. Thus it is the only common language between them and the said drawings convey all the informations that may be needed. Therefore, preparation of drawings and their interpretation plays a vital role in the engineering activity.

This book on engineering drawing has been written in a simple language and in a logical sequence so that a craftsman understands thoroughly all aspects of a technical drawing. There are a large number of conventional practices that are being followed in the preparation of technical drawings and, therefore, familiarity with our national standards is of utmost importance. It is heartening to note that authors have given frequent reference to the practices and conventions as laid down by Bureau of Indian Standards. Since, now BIS recommends the technical drawings to be prepared in First Angle Projection, the authors have very rightly followed this practice in this book. Authors have so arranged the subject matter of the book that it is well suited to the candidates undergoing study in various trades of Mechanical Engineering in the Industrial Training Institutes. The entire subject matter has been divided into ten units rather than into chapters as commonly followed in conventional books. It is very helpful for the instructors in such institutes as the approximate time to be

spent on the instruction on a particular unit has been indicated in the contents of the book and this will ensure a proper emphasis to be given to a particular aspect of the subject. The sequence followed in the book is such which will develop a gradual interest in the student to grasp the subject matter appropriately.

The quality of drawings and sketches included in the book is fairly good and bear an expression of clarity for which the authors deserve praise. Inclusion of a separate unit on common hand tools, measuring instruments, cutting tools and machine accessories has made the text more versatile and complete. In order to avoid a voluminous text and keep the cost of the book to a reasonable and affordable level, the extent to which various topics are to be described, being an uphill task, the authors must have prepared several drafts to arrive at the final content which conveys the desired sense without any loss of generality. It is this sincere effort of the authors which although appears latent has added value to the text.

The book should become a popular text amongst the students and instructors associated with Industrial Training Institutes in the country. I would suggest that in order to have a wider acceptability the book should be translated into regional languages as the students for whom it is meant will have normally a 10 or 11 years of school education only. At this level the medium of instruction in most of the states in India, is regional language. However, the English version will also provide an introductory text in engineering drawing to diploma and degree students in engineering.

*Professor, Department of Mechanical and Industrial Engg., University of Roorkee, Roorkee-247 667.

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

BIOLOGICAL SCIENCES

Biology

1. Balasubramanian, C P. Studies on the deep water crab, *Charybdis (Gonocheilus) smithi* Macleay from the seas around India. CUST.
2. Gurunath, Ramenathan. Non protein amino acids in *de novo* design: An evaluation. IISc.
3. Hiremath, K G. Surf phytoplankton, ecology and population dynamics. Goa. Dr A G Untawale.
4. Mayekar, Deepak. Distribution of foraminifera off Mangalore - Cochin sector, West coast of India. Goa. Dr Rajiv Nigam.
5. Mohanty, Debasisa. Model building and molecular mechanics studies on G tetraplex and B-Z-B DNA motifs. IISc.
6. Neena Kumari. Isolation and characterization of NaCl tolerant cell lines in *Origanum vulgare* L. Jamia. Dr Pardha Saradhi and Prof M Amin, Department of Bio-Science, Jamia Millia Islamia, New Delhi.
7. Seshadri, K. Characterisation of ligand binding in ribonucleases A - computer modelling and simulation approach. IISc.
8. Shafi, Rubina. Genetic and biochemical regulation of biosurfactant activity in *Acinetobacter calcoaceticus* S19. Jamia. Dr Arif Ali, Department of Bioscience, Jamia Millia Islamia, New Delhi and Dr S Khanna, Tata Energy Research Institute, New Delhi.
9. Shehla Kaneez Fatima. Cytogenetic and biochemical studies in cement factory workers. Osmania. Prof P P Reddy, Institute of Genetics, Begumpet, Hyderabad.
10. Sunil Kumar, R. Studies on the benthic fauna of the mangrove swamps of Cochin Area. CUST. Dr A Antony, Reader (Retd), School of Marine Sciences, Cochin University of Science and Technology, Kochi.
11. Taneja, Maneesh. Ultrasonographic monitoring of ovarian follicular dynamics during the estrous cycle in buffaloes: Implications for superovulation. Jamia. Dr Arif Ali, Department of Bioscience, Jamia Millia Islamia, New Delhi.
12. Veena, T P. A study on the contribution of genetic coagulation and immunological factors in pre-eclampsia. Osmania. Prof T Padma, Department of Genetics, Osmania University, Hyderabad.
13. Yadav, S P. Studies on the factors affecting efficacy of biocide isolates against mosquitoes. Jamia. Dr Arif Ali, Department of Bioscience, Jamia Millia Islamia, New Delhi and Dr N R

Shateshwar, Hindustan Insecticides Ltd, Haryana.

Biochemistry

1. Acharya, Samir. Characterisation of DNA ligase and pairing activities from a partially purified fraction from rat testis. IISc.
2. Andhare, Jayshri Pradeep. Studies on amino acid metabolism in some animal tissues. Nagpur. Dr N V Shastri, Reader, Department of Biochemistry, Nagpur University, Nagpur.
3. Bhatia, Surekha. Bioregulation in the import into grain of free sugars and their transformation to starch in sorghum. PAU.
4. Hegde, Ramesh R. Studies on the variants of the protein toxins avenin and ricin. IISc.
5. Marar, Thankamani. Biochemical studies on the effect of monocrotaline, a plant alkaloid in rats. Madras. Dr (Mrs) C S Shyamaladevi.
6. Padma, S. Studies on the generation and characterisation of a murine monoclonal antibody against human breast cancer cell line-cama. Madras. Dr A Meenakshi.
7. Ramachandiran, S. Regulation of a novel amylase in detached *Cuscuta reflexa* vines - Physiological, biochemical and molecular biological studies. IISc.
8. Ramamoorthy, Narayani. Development of biodegradable gelatin microspheres and injectable and oral controller release delivery system. Madras. Dr A Panduranga Rao.
9. Ravinder, P. Norethisterone enanthate as a long acting oral contraceptive agent. Osmania. Dr B Sivakumar, National Institute of Nutrition, Hyderabad.
10. Sajani, L S. Characterization of heavy metal resistant strains of microorganisms. Osmania. Dr P Maruthi Mohan, Department of Biochemistry, Osmania University, Hyderabad.
11. Shenai, Bhaskar R. Cloning and expression of a diagnostic antigen for invasive amoebiasis. IISc.
12. Somayajulu, G L. Study of alpha-I-antitrypsin in health and disease. Osmania. Prof P P Reddy, Institute of Genetics, Begumpet, Hyderabad.
13. Sreenivas, A. Fatty acid and triacylglycerol synthesis in developing seeds of groundnut, *Arachis hypogaea* and pista, *Actinodaphne keekert L*. IISc.
14. Subramaniam, K. Gene expression during cytokinin induced haustoria formation in *Cuscuta reflexa* Roxb. IISc.
15. Subramanian, Lalitha. Studies on the antioxidant activity of turmeric, *Curcuma longa* in experimental hepatotoxicity

and urolithiasis. Madras. Prof S Selvam.

16. Sumathi, P. Studies on serum neurobiochemical markers in patients with head injury. Madras. Dr M K Balasubramanian.

17. Sushma Rani. Biosynthesis of lipids and proteins in the membranes of *Neurotis indica*. PAU.

18. Tamiz Chevi, P. Effect of hyperthermia, radiation and temperature sensitive liposomes entrapped anticancer drugs on murine tumors. Jamia Hamdard. Dr S K Jain.

19. Venkitakrishnan, P. Biochemical genetic studies on the oil sardine, *Sardinella longiceps* (Cuvier and Valenciennes 1847) from selected centres of the west coast of India. CUST. Dr M K George, Scientist, Central Marine Fisheries Research Institute, Kochi.

20. Vijaye, A. Studies on the effect of renal ischemia reperfusion in experimental urolithiasis. Madras. Dr R Selvam.

21. Vijayalakshmi, V B. Purification and characterization of a monomeric glutamine synthetase from *Rhizobium leguminosarum* biovar *phaseoli*. Osmania. Prof S L N Rao, Department of Biochemistry, Osmania University, Hyderabad.

22. Vijayalaxmi, Kodi. Vitamins and thiols in methylmercury detoxication: A biochemical study. Saurashtra. Dr P P Sood.

Microbiology

1. Rajakumar, R R R. Role of *Clostridium difficile* in antibiotic associated diarrhea, enterocolitis and pseudomembranous colitis. Madras. Dr Thangam Menon.

2. Sumathy, S. Epidemiology, clinical immunology, virology, immuno-histochemistry and clinical sequelae in hepatitis delta virus infections: A multifaceted study. Madras. Dr S P Thyagarajan.

Botany

1. Aravinda, T. Studies of grain moulds on sorghum cultivars from AP, India. Osmania. Prof C Manohara Chary, Department of Botany, Osmania University, Hyderabad.

2. Dileep, C. Studies on plant growth promoting rhizobacteria. Bhavnagar. Prof H C Dube, Department of Life Sciences, Bhavnagar University, Bhavnagar.

3. Elumalai, R P. Studies on the plasmids of *Pseudomonas* and cloning of pectate lyase genes from *Pseudomonas marginalis*. Madras. Dr A Mahadevan.

3. Ganesan, V. Distribution of Vam fungi in different habitats and the effect of selected Vam fungi on a few tuber crops. Madras. Dr A Mahadevan.

4. Joe, Y. Studies on sheath rot disease of rice. Madras. Dr K Manibhushan Rao.

5. Joshi, Kamlesh Kumar Induprasad. Floristic phytosociological and ethnobotanical studies of Cambay Taluka. Bhavnagar. Dr D C Bhatt, Sir P P Science College, Bhavnagar.

6. Naheed, Sarah. Tissue culture and mutagenic studies in groundnut, *Arachis hypogaea* L. Osmania. Dr (Mrs) J K Bhalla, Department of Botany, Osmania University, Hyderabad.

7. Nigam, Smita. Study of cultivated crops in polluted and

non-polluted environment. Vikram. Dr G S Dwivedi.

8. Parameswaran, P. Light responses and physiological characterization of cyanobacteria. Madras. Dr N Anand.

9. Ravishankar, J P. Studies on the physiology of some marine fungi. Madras. Dr T S Surnarayanan.

10. Satyajit Rao, C. Ecophysiological studies on productivity of ectomycorrhizae in *Pinus kesiya* Royle ex Gordon. NEHU. Dr G D Sharma, Department of Botany, North Eastern Hill University, Shillong.

11. Sridhar, D. Diatom flora around Andaman and Nicobar Islands. Madras. Prof T V Desikachary.

12. Srinivas, Meenakshi. Production, identification and characterisation of aneuploids in *Solanum virescens* Dunal. Bangalore. Dr R M Ranganath, Department of Botany, Bangalore University, Bangalore.

13. Sudhakar Reddy, M. Selection of a suitable ectomycorrhizal fungal isolate for *Pinus patula* nurseries in Tamil Nadu, South India. Madras. Prof K Natarajan.

14. Sumathi, S M. Functional transformations of some carbon compounds in *Azotobacter caulinodans* MUS 10. Madras. Prof P N Raju.

15. Uma Rani. Cytotaxonomic and numerical chemotaxonomic studies on some orchid taxa of West Himalaya. HAU. Dr Vipin Garg, Principal, I P Postgraduate College, Bulandshahr. Agriculture

1. Ajita, Major Singh. Hydraulics and water use efficiency of furrow irrigation system. PAU.

2. Baktharatchagan, R. Bionomics of *Neostylopyga rhombifolia* Stoll, *Supella longipalpa* F and their oothecal parasitoids. Madras. Dr K S Anantha Subramanian.

3. Handa, Anil Kumar. Identification and management of viruses infecting chillies in Himachal Pradesh. YS Parmar. Dr S C Chowdhury, Department of Plant Pathology, College of Horticulture, Nauni.

4. Inderjit Singh. Effect of different types of mulching and herbicidal treatments on weed management and economic traits of tomato, *Lycopersicon esculentum* L. PAU.

5. Lakhpal, Gian Chand. Management of aphids on rapeseed with biocontrol agents. HP Krishi. Dr Deekh Raj, Department of Entomology, College of Agriculture, Palampur.

6. Patil, Dilip Bhagwan. Effect of nitrogen and phosphate fertilization on gossypol content, yield and uptake of nutrients by different varieties of cotton. Punjabrao Krishi.

7. Patil, Ravindra Trayambak. Studies of the combined use of organics and inorganics on physico-chemical properties of soil and efficiency of fertilizers applied to jowar and wheat in a jowar-wheat rotation cropping sequence. Punjabrao Krishi.

8. Sharma, Dharam Paul. Effect of pruning intensities under different levels of nitrogen and potassium on growth, yield and quality of peach, *Prunus persica* Batsch. cv. July Elberta. YS Parmar. Dr J M Singh, Department of Pomology, College of Horticulture, Solan.

9. Sharma, Jagdev. Preparation and utilization of

phosphocompost from rockphosphate. HP Krishi. Dr G R Sharma, Department of Soil Science, College of Agriculture, Palampur.

10. Sharma, Uday. Studies on the nutrient status in the soil and trees of apple orchards in Chamba District of Himachal Pradesh. YS Parmar. Dr A R Bhandari, Department of Soil Science, College of Forestry, Nauni.

Zoology

1. Anand Kumar, V. Endosulfan induced biochemical and pathophysiological changes in fresh water fish, *Claeis batrachus* Linn. Osmania. Prof S L N Reddy, Department of Zoology, Osmania University, Hyderabad.

2. Anbarasu, K. Studies on the toxic manifestations of mercuric chloride HgCl₂, on the metabolic profile and scope of *Scylla tranquebarica* Fabricius. Madras. Dr K Ramalingam.

3. Anbunathan, I Samuel Basker. Investigation on a few freshwater aquarium fishes. Madras. Dr P Sita Rami Reddy.

4. Bebbane, Nader Shabaniour. A correlative histomorphological study on the corpuscles of stannius, interrenals and ovary in the teleost, *Mugil setosus* Riso. Madras. Dr K Shanmugam.

5. Dhang, Partha Pratim. Nutrition modulated physiological responses in an oligophagous acridid, *Oxys fuscovittata* Marshall (Insecta : Orthoptera : Acrididae). Madras. Dr K P Sanjayan.

6. Dus, Vanita. Ecology of biochemical nitrogen in the energetics of *Tylotropidius vericornis* Walk. Ghosidas. Dr K P Dwivedi, C M D, Postgraduate College, Bilaspur.

7. Harikrishnan, R. Immunoscintigraphic studies on breast cancers. Madras. Dr A Meenakshi.

8. Krishnamurthy, S V. Ecological investigations on the invertebrate drift and benthos of the river Tunga, Sringeri. Bangalore. Dr S Ravichandra Reddy, Prof, Department of Zoology, Bangalore University, Bangalore.

9. Mishra, Swadesh Bharti. Toxicity studies of thermal decomposition products from commonly used synthetic and natural polymers in laboratory animals. Jiwaji. Dr R Mathur, Prof and Head, Department of Zoology, Jiwaji University, Gwalior and Dr R K Srivastava, D R D E, Gwalior.

10. Raman, J. Investigation on some aspects of biology and developmental biochemistry of a social spider, *Stegodyphus sarasinorum* Karsh. Madras. Dr R Manavalaramanujam.

11. Senthil Kumar, B. Electrophoretic studies of the family

Clupeidae (Pisces) of the Madras Coast. Madras. Dr A P Kamalakara Rao.

12. Srinivas, Vudathala. Anticonvulsant effect of *Sepia* shell extract against pentylenetetrazole and strychnine induced convulsions. Osmania. Prof P Uma Maheswara Reddy, Department of Zoology, Osmania University, Hyderabad.

13. Syed Azeezullah. Some aspects of reprobiotherapy of the male cuttlefish, *Sepia aculeata* Orbigny. Madras. Dr S V M Abdul Rahim.

14. Venkatesan, S. Studies on insect - plant interactions with reference to two lepidopterous pests, *Pericalla ricini* F (Arctiidae), *Euproctis fraterna* M (Lymnatriidae) and their larval parasitoids. Madras. Dr T N Ananthakrishnan.

Medical Sciences

1. Farhat Khanum. The repair of photodynamic membrane damage in normal and transformed mammalian cells. Bangalore. Dr Viney Jain, Director, Defence Research and Development Organisation, Institute of Nuclear Medicine and Allied Sciences, Delhi.

2. Kumaraswami, V. Clinical and immunological aspects of eosinophilia in relation to lymphatic filariasis and the influence of anti-filarial drugs on the parasite eosinophil relationship. Madras. Dr K V Thiruvengadam.

3. Narayana Reddy, D. Studies on sexual disorders in human males. Madras. Dr P Govindarajulu.

4. Rajasree, M T. Certain immunological parameters in noise stress. Madras. Dr A Namasivayam.

5. Sembulingam, K. Effects of noise stress on central cholinergic system and on some selected stress indices in albino rats and antistressor effects of the *Ocimum sanctum*. Madras. Dr A Namasivayam.

6. Umesh Rao, Vinay. Studies on transdermal absorption of polypeptide drugs. Baroda.

7. Venugopal, V. Studies on clinic immunological aspects of diabetes mellitus. Madras. Dr S P Thyagarajar.

8. Waikar, Shekhar Balwant. Phytochemical and pharmacognostic investigations of some members of Euphorbiaceae. Nagpur. Dr A N Saoji, Department of Pharmaceutical Sciences, Nagpur University, Nagpur.

Veterinary Sciences

1. Nazki, Ayas Rasool. Interaction between glucocorticoids and somatotropin in modulating the immune system status in neonatal buffalo calves. PAU.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in the AIU Library during May 1995

EDUCATIONAL PHILOSOPHY

Krishna Kumar. (1993). Mohandas Karamchand Gandhi (1869-1948). Prospects 23(3 & 4), 507-17.

Shukla, Suresh. (1994). Educational pioneer : Professor Moonis Raza (1925-1994). J of Ednl Plann and Admin 8(3), 247-50.

EDUCATIONAL PSYCHOLOGY

Akinwunmi, Peter. (1995). Facilitating psychological skill : Technique is not enough. Quality Assurance in Edn 3(1), 6-9.

Brooks, Ann and Watkins, Karen E. (1994). A new era for action technologies : A look at the issues. New Directions for Adult and Continuing Edn 63, 5-16.

Garnon, Zelda. (1994). Collaborative learning comes of age. *Change* 26(5), 44-9.

O'Neill, Judy and Marsick, Victoria J. (1994). Becoming critically reflective. *New Directions for Adult and Continuing Edn* 63, 17-30.

EDUCATIONAL SOCIOLOGY

Sharma, K R. (1995). Tribal education in India. *Progress of Edn* 69(8), 157-62.

EDUCATIONAL POLICY AND PLANNING

Ribier, Renee. (1994). Legal construction of higher education structures: The French case. *Hr Edn in Europe* 19(4), 76-8.

Sayegh, Raymond. (1994). The impact of history, geography, and the economy on higher education policy: A comparative survey. *Hr Edn in Europe* 19(4), 18-30.

Vanderhoeven, Johan L and Groof, Jan De. (1994). The legal construction of higher education structure. *Hr Edn in Europe* 19(4), 60-8.

EDUCATIONAL ADMINISTRATION

Amrik Singh. (1995). Universities and institution-building: The case of Delhi School of Economics. *Mainstream* 33(27), 9-14.

Ard, Anne K. (1994). Institution-sponsored internships. *New Directions for Hr Edn* 23(3), 11-6.

Beteille, Andre. (1995). Universities as institutions. *Eco and Pol Weekly* 30(11), 563-8.

Brennan, John. (1995). Benchmarking: An alternative to OFSTED: Lessons for higher education. *Quality Assurance in Edn* 3(1), 36-8.

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Indira Gandhi Institute of Development Research (IGIDR)

Project Positions for Capacity Building in Environmental Decision Making

IGIDR, an advanced research institute established by the Reserve Bank of India, is taking up a United Nations Development Programme sponsored project 'Capacity Building for Introduction of Environmental Economics into Decision Making for Sustainable Development'. The focus of the project will be Economic Analysis of Air and Water Quality Management, Community Land Management, and Biodiversity. The project involves developing training materials, organising workshops and training sessions, interaction with stakeholders and decision makers, preparation of guidelines on sustainable resource management pursuing an interagency collaborative effort.

The project offers excellent opportunity to young and dynamic persons in Research, Management and Information Sciences to work in an interdisciplinary environment. Good written and oral communication skills are a basic requirement for all positions.

Positions	Qualification	Specialisation
Fellow	Ph.D./1-5 years' experience in the field of environment	Resource Economics, Sociology, Environmental Engineering, Environmental Sciences, Biology, Agriculture, Environmental Law
Resource Economist	M.A./M.Sc.	Same as above
Resource Engineers	B.Tech.	-
Programme Officer	MBA/Engineering, 5 years exp. in Project Management	R&D Management preferred
Information Scientist	B.Tech./M.C.A. 2-4 years experience	Multimedia expertise preferred
Administrative Assistant	Graduate, 1-2 years' experience	-
Secretary	Graduate, 1-2 years' experience	Knowledge of DTP preferred

The duration of the project is 30 months. Positions are available at various levels and emoluments will be in the range of Rs. 50,000—Rs. 1,50,000 per annum (negotiable). Interested persons may apply giving full details and two reference names. Those who have submitted their thesis for Ph.D. but have not yet been awarded the doctorate may also apply. Women are strongly encouraged to apply. Application should reach 'Project Office, Capacity 21, Indira Gandhi Institute of Developmental Research, Goregaon (E), Bombay-400065, Fax: 840-2068, e-mail: cap 21 @ agni.net.in, within one month of the publication of this advertisement.

BANARAS HINDU UNIVERSITY

CORRIGENDUM TO ADVERTISEMENT NO. 1/1994-95 (Published in "Employment News" Issue of April 8-14, 1995)

Following additional provision may be read in the preamble of the Advt. No. 1/1994-95 at Serial No. 7 under "Note".

"7. Candidate covered under Physically handicapped category is required to apply alongwith certificate from competent authority indicating percentage disability as the issue of reservation of posts for said category stands referred to UGC."

The following corrections have been made in the above Advertisement. The last date for receipt of applications for all the posts covered under the Advt. No. 1/1994-95 has been extended upto 30-6-1995.

1. Lecturer in Molecular Biology (One) (Dept. of Biochemistry) Sl. No. 46
 2. Lecturer in Biochemistry (One) (Dept. of Biochemistry) Sl. No. 47
- The qualifications for S.No. 46 & 47 may be read as under :
- Qualifications : Essential : M.D. (Biochemistry)/MBBS with M.Sc. (Medical Biochemistry)/Ph.D. (Medical Biochemistry/Biochemistry)/D.Sc. (Medical Biochemistry/Biochemistry).
3. Lecturer in Molecular Biology (Temporary likely to continue) (Under DBT Research Project - Core Support - for Molecular Biology - Genetics Engineering, Molecular Biology Unit, Institute of Medical Sciences): Sl.No. 58
- The qualifications may be read as under :
- "Good academic record with atleast 55% marks or an equivalent grade of Master's Degree level in any subject of Physical or Biological Sciences related to Molecular Biology from an Indian University or an equivalent degree from a foreign University."
4. Lecturer in Shalya Shalakya (Two) (Dept. of Shalya Shalakya) Sl.No. 69
- The desirable qualification No. 4 may be read as Ph.D. in the subject (For both the posts).
5. Lecturer in Mining Engineering (Rock Mechanics) (Dept. of Mining Engineering) Sl.No. 131
- The above post may be read as Lecturer in Mining Engineering (Rock Mechanics) (Under Centre of Advanced Study - Department of Mining Engineering).
6. Lecturer-cum-Rice Breeder (Under All-India Rice Improvement Project - Department of Genetics & Plant Breeding) : Sl.No. 154
- The above post has been withdrawn.
7. Lecturer in Analytical Chemistry (Department of Chemistry) Sl.No. 207
- The nomenclature of the post has not been indicated. The nomenclature of the post may be read as "Lecturer in Analytical Chemistry", Department of Chemistry.
- All other contents of aforesaid Advertisement No. 1/1994-95 remains unchanged.

Planning to Study Overseas? Look at Australia.

Australian Universities offer everything you could expect in your search for true learning excellence:

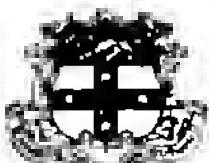
- degrees which are highly respected internationally in academia, government and business;
- very competitive fee structures;
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- highly qualified teaching staff;
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Indian Merchants' Chamber Marg,
Churchgate, Bombay 400 020
27 June 1995, 12noon - 8pm
28 June 1995, 10am - 5pm

BANGALORE

Taj West End Hotel
'The Ballroom'
Race Course Road
Bangalore 560 001
4 July 1995, 12noon - 8pm
5 July 1995, 12noon - 8pm

ADMISSION FEE - Rs.50

NEW DELHI

Ashok Hotel
'Cocktail Lounge'
50 B Chanakyapuri,
New Delhi 110 021
30 June 1995, 12noon - 8pm
1 July 1995, 10am - 5pm

MADRAS

Ambassador Pallava Hotel
'Dynasty Hall'
53 Montieth Road
Madras 600 008
7 July 1995, 12noon - 8pm
8 July 1995, 12noon - 8pm



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All exhibiting Universities are Australian Government funded.

Please note that no scholarships are available and that places in Medicine are confined to MBBS.

Enquiries phone: Bombay (022) 218 1071; New Delhi (011) 688 8223; Bangalore (080) 559 7920; Madras (044) 826 6763

CLASSIFIED ADVERTISEMENTS

Technical and Medical Education Society's
J.T. MAHAJAN COLLEGE OF ENGINEERING
PO MSSK Palpur - 425 524,
Dist-Jalgaon (Maharashtra)

WANTED

Applications are invited for the following teaching posts:

A. Engg. Math : 1 AP, 1 L ; Engg. Chem : 2 L (1 OBC); Engg. Physics : 1 L; Engg. Economics : 1 L

B. Civil Engg : 2 P (1 SC), 4 AP (1 SC, 1 ST), 4 L (1 SC, 1 ST)

C. Electrical : 1 P, 1 AP, 1 L

D. Electronics and Telecommunication Engg : 2 P (1 ST), 3 AP (1 NT, 1 OBC), 3 L (1 OBC, 1 SC)

E. Instrumentation : 1 L

F. Computer : 1 P, 2 AP (1 NT, 1 OBC), 3 L (1 OBC, 1 NT)

G. Mechanical Engg : 2 P (1 NT), 4 AP (1 SC, 1 OBC), 6 L (1 SC, 1 ST, 1 OBC)

H. Training and Placement : 1 P

Details regarding Qualifications, Experience and salary which are as per AICTE/North Maharashtra University, Jalgaon norms shall be supplied on a written request alongwith a DD/IPO of Rs. 10/- in favour of Principal. Last date for submitting duly completed application to college office alongwith DD/IPO of Rs. 25/- is within four weeks of the publication of this advertisement.

PRINCIPAL

REGIONAL MEDICAL RESEARCH CENTRE FOR TRIBALS

(Indian Council of Medical Research)
RMRC Complex, Nagpur Road,
Garha P.O.
Jabalpur - 482 003 (M.P.).

Advt. No. 2/95

SPECIAL DRIVE FOR RECRUITMENT OF SC/ST CANDIDATES ONLY

Applications are invited by the Director, RMRC, Jabalpur for filling up the following posts of the Centre :

Field Investigator - 2 Posts (Reserved for ST)
(SC candidates may also apply)
Pay Rs. 1400-40-1800-EB-50-2300/-.
Qualification & Experience : Essential :

Post No. 1 M.Sc. or M.H.Sc. in Food & Nutrition/ Bio-chemistry/Microbiology.
Post No. 2 Post Graduate in Bio-statistics/Statistics/Demography/Social Sciences.

PUNJAB AGRICULTURAL UNIVERSITY LUDHIANA

ADMISSION NOTICE MASTER OF BUSINESS ADMINISTRATION

Applications are invited for admission to Master of Business Administration Programme for the academic year 1995-96

ELIGIBILITY :

Graduate/Postgraduate in Science/Engineering, Agriculture, Agricultural Engineering, Technology, Veterinary and Home Science with atleast 60% marks or OGPA 2.74 (4.00 basis) or OCPA 6.00 (10.00 basis) at graduation level.

Candidates appearing for the final year of the Bachelor's/Master's degree examination in 1995 can also apply. In such cases, final selection will be provisional subject to fulfilment of above requirements and they will be required to submit necessary certificate regarding completion of their B.Sc./M.Sc. degree well before the date of commencement of 1st Semester 1995-96 failing which their candidature will stand cancelled.

SELECTION CRITERIA :

The number of seats is 25. The admission will be made on the basis of a competitive test/interview. 25% seats are reserved for the candidates belonging to Scheduled Castes/Scheduled Tribes and 5% seats are reserved for Backward Classes. Eligible candidates are required to appear in the written test to be held on 6-8-1995 at Ludhiana.

APPLICATIONS :

The Prospectus alongwith application form can be obtained from 15-6-1995 onward from the Registrar either by post by sending crossed Indian Postal Order(s) for Rs.50/- in favour of the Comptroller, PAU and payable at PAU Post Office, Ludhiana or Rs.40/- in cash at counter. The envelope containing completed application form should be marked "ADMISSION TO MBA".

The candidates should also attach attested copies of all certificates from Matric onward with their applications otherwise weightage of marks will not be given to them. The candidates are also required to submit two passport size photographs, in addition to one copy of photograph pasted on the admission form. All the photographs must be attested by a Gazetted Officer. The candidate must also give his/her name and father's name on the photographs and affix these photographs on the admission certificates supplied to them alongwith the application form. All the photographs should be from the same negative.

Details about the dates and venue of the Entrance Examination and Interview are available in the Prospectus.

LAST DATE FOR RECEIPT OF APPLICATIONS : 7-7-1995

EXAMINATION FEE : The applications should be submitted to the Registrar, Punjab Agricultural University, Ludhiana, alongwith crossed Bank Draft for Rs.325/- in favour of Comptroller, PAU, Ludhiana, drawn on any Local Scheduled Bank. Incomplete applications, applications received without examination fee and applications received after 7-7-1995 will not be entertained.

**J.B. GOYAL
REGISTRAR**

Desirable : One year experience in the relevant field. Experience in the field of Scientific publication will be preferred.

Age : Below 30 years.

Job requirements : The job requires extensive travelling in rural areas of Madhya Pradesh and country for collection of data and also laboratory based work. Any other job, as per the need can also be assigned.

General Instructions

1. ST/SC candidates allowed relaxation in age & experience as per ICMR/Government of India rules.

2. ST/SC candidates called for interview will be paid TA as per ICMR/Government of India rules.

3. The incumbent will be governed by rules and regulations of ICMR/Government of India rules.

4. Interested and eligible candidates may send their applications on the plain paper with complete bio-data alongwith attested copies of testimonials with passport size photograph upto 15th July, 1995 to the above address.

5. Employees working under the Central/State/Semi Government and Government Controlled Undertakings should apply through proper channel.

6. Incomplete and late received applications will not be accepted.

DIRECTOR

**INDIAN INSTITUTE OF MASS
COMMUNICATION**

NEW DELHI

Applications in the prescribed form are invited for the post of Registrar.

Scale of pay : Rs. 4500-5700

Application form and the full advertisement can be obtained from Deputy Registrar, Indian Institute of Mass Communication, Aruna Asaf Ali Marg, JNU New Campus, New Delhi-110 067 in person or by post by sending a self-addressed and stamped (Rs. 3.00) envelope (27 x 13 cm.). Completed application form should be accompanied by a Demand Draft for Rs. 20/- in favour of "Indian Institute of Mass Communication, New Delhi".

The last date for issue of application form is 17-7-95 and receipt of completed applications is 21-7-95.

While the Institute will take every care and caution in sending communications, it does not take any responsibility for postal lapses or delays.

**University College of Medical Sciences
(University of Delhi)
Guru Teg Bahadur Hospital
Delhi-110 095**

ADDENDUM

Advertisement No. MC/Estab/2/11/95-I appearing in the *University News* dtd. 12/6/1995. The posts of Professor in Physiology advertised as one be read as two. The last date for receipt of applications is notified as 17th July, 1995.

PRINCIPAL

**DR. B.R. AMBEDKAR
REGIONAL ENGINEERING COLLEGE**

G.T. Road, Bye-Pass, Jalandhar

Advertisement No. 5/95

Applications are invited for the post of Principal, in the grade of 6300-200-7300 alongwith a postal order for Rs. 35/- drawn in favour of the Principal, Dr. B.R. Ambedkar Regional Engg. College, Jalandhar. The candidate must fulfill the following qualifications :

1. Ph.D. with 1st Class at Bachelor's or Master's level in Engg./Technology.
DR

Ph.D. degree with 1st Class at Bachelor's or Master's level in appropriate branch in Humanities or Sciences.

2. 10 years distinguished experience in teaching/industry/research out of which 5 years must be at the level of Asstt. Prof. or equivalent.

Note : Candidates from Industry/Professions with recognised Professional work of high standard recognised at National/International level equivalent to Doctorate would also be eligible.

Desirable : Administrative experience in a responsible position.

The appointment shall be made on a contract basis for an initial term of three years with the possibility of renewal depending upon the merits of each case. The normal age of retirement is 60 years.

The post carries D.A. and other allowances as admissible under the rules of the college. Candidates called for interview from outside will be paid single 1st class railway/Air-conditioned Bus fare by shortest route for their journey to and fro. Provision for higher start exists for exceptionally qualified and deserving candidates. Persons in service should submit their applications through their employers. Applications typed on plain paper giving the following particulars complete in all respects should be sent by registered post to the Registrar, Dr. B.R. Ambedkar Regional Engg. College, G.T. Road, Bye-Pass, Jalandhar, so as to reach within 30 days of the publication of this notice.

1. Name in full (in block letters)
2. Father's Name
3. Present Postal Address (Block letters)
4. Nationality
5. Date of Birth
6. Educational qualifications (from Matriculation onwards with percentage of marks & the Board/University from where passed in tabular form alongwith attested copies of the testimonials)
7. Field of Specialization
8. List of all previous employment in order (Most recent first) together with details of duties, salary drawn
9. Details of Publications (Attach Prints)
10. Name and Address of two referees
11. Any other relevant information

REGISTRAR

davp 1095(1)95

में योगतंत्र में आधार्य अथवा तत्समक्ष उपाधि ।

2. अनुसंधान उपाधि या प्रकाशित अनुसंधानात्मक कार्य ।

वांछनीय :

1. आलोचनात्मक ग्रन्थ अथवा संस्कृत रचनाओं के अनुवाद कार्य का अनुभव ।

2. कम से कम दो वर्ष का अध्यापन अनुभव ।

4. सिलेक्ट (संगीत ग्रन्थ)

1. संगीत (गायन) विषय में कम से कम उच्च द्वितीय श्रेणी में स्नातकोत्तर उपाधि अथवा तत्समक्ष योग्यता ।

वांछनीय : अन्य वाद्य वादन क्षमता ।

5. पुस्तकालय :

1. प्रथम/उच्च द्वितीय श्रेणी में शास्त्री/बी.ए. अथवा तत्समक्ष उपाधि तथा प्रथम/उच्च द्वितीय श्रेणी में एम०लाइब्रेरी साइंस उपाधि (दो वर्षीय पाठ्यक्रम) अथवा प्रथम/उच्च द्वितीय श्रेणी में आधार्य/एम०ए० अथवा तत्समक्ष उपाधि तथा प्रथम/उच्च द्वितीय श्रेणी में बी०लाइब्रेरी साइंस उपाधि अथवा पुस्तकालय विज्ञान में एक वर्षीय उपाधि ।

2. किसी ख्याति प्राप्त पुस्तकालय में पुस्तकालय के रूप में उत्तरदायित्वपूर्ण प्रोफेशनल पद पर अथवा पाण्डुलिपि ग्रन्थों के सम्पादन का कम से कम 10 वर्षों का अनुभव ।

3. मान्यता प्राप्त शोध कार्य उथवा विशेष योजनाओं पर कार्य करने का अनुभव ।

वांछनीय :

1. अंग्रेजी एवं हिन्दी का ज्ञान ।

2. हस्तलिखित ग्रन्थों के सम्पादन का अनुभव ।

3. प्राचीन भारतीय लिपियों का ज्ञान

4. संस्कृत विद्या से सम्बद्ध विषयों के शोधकार्यों के पथ प्रदर्शक का अनुभव ।

5. संस्कृत, पालि अथवा प्राकृत में एम०ए० उपाधि ।

टिप्पणी :

उपर्युक्त आवश्यक आहताओं के साथ विद्यादारियि/पी-एच०डी० को वरीयता दी जायेगी ।

नियुक्ति के समय आयु न्यूनतम 40 वर्ष और अधिकतम 55 वर्ष ।

6. उपपुस्तकालय :

1. प्रथम/उच्च द्वितीय श्रेणी में शास्त्री/बी०ए० उपाधि तथा प्रथम उच्च द्वितीय श्रेणी में एम०लिब०एस-सी० द्विवर्षीय पाठ्यक्रम उपाधि ।

2. प्रथम/उच्च द्वितीय श्रेणी में आधार्य/एम०ए० उपाधि तथा प्रथम/उच्च द्वितीय श्रेणी में बी०लिब०एस-सी० उपाधि अथवा लाइब्रेरी साइंस में एक वर्षीय डिप्लोमा ।

किसी विंडि०, ख्यातिप्राप्त महाविद्यालय में या अन्य प्रतिष्ठित पुस्तकालय में कम से कम 5 वर्ष का अनुभव ।

वांछनीय :

1. स्नातकोत्तर स्तर के संस्कृत का ज्ञान ।

2. किसी विश्वविद्यालय अथवा शोध संस्थान में डाकूमेन्टेशन अथवा बिलियोग्राफी के कार्य का अनुभव ।

7. पुस्तकालय साक्ष्यक :

1. पुस्तकालय विज्ञान में स्नातक अथवा तत्समक्ष उपाधि ।

2. उच्च द्वितीय श्रेणी में शास्त्री उपाधि अथवा संस्कृत, पालि, दर्शन, इतिहास एवं संस्कृति अथवा आधुनिक भारतीय भाषा के साथ बी०ए० उपाधि ।

सामान्य निर्देश :

1. पूर्व विज्ञापन सं० 1/1993 के अनुसरण में संपाद्यार्थी एवं प्राच्यापक पदों के प्राप्त आवेदन पत्रों पर विचार करना संभव न होगा । अतः ऐसे अस्थर्थी पुनः आवेदन करें ।

2. जिन प्रकरणों में परिनियम/अध्यादेश के प्राक्षणानों का उल्लंघन न होता हो उनमें निर्धारित अहंताओं में से किसी को शिथिल करने, अतिरिक्त देतन वृद्धि प्रदान करने आदि के सम्बन्ध में घयनसमिति संस्तुति कर सकती है ।

3. साक्षात्कार हेतु आहूत करने का अधिकार विश्वविद्यालय के पास सुरक्षित है ।

सं०जन०/२७/९५ गिरजारांकर मिश्र
दिनांक : २.६.९५ कुलसंक्षिप्त

NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES

BANGALORE - 560 029

No. NIMH/PER-5/RECT/ADVT/95-96

Date : 1.6.1995

SPECIAL RECRUITMENT DRIVE FOR
SC/ST 1995

Applications are invited from SC/ST candidates for the following posts upto 15.7.1995 in the prescribed form available on request.

1. ASSISTANT PROFESSOR OF
PSYCHIATRY

Qualification : M.D. in Psychiatry/
M.D. in Psychological Medicine/M.D. in
General Medicine and Diploma in Psycho-

logical Medicine of 2 years duration or equivalent.

2. ASSISTANT PROFESSOR OF
NEURO-SURGERY

Qualification : M.Ch. Neurosurgery/Speciality Board of Neurosurgery (USA) or equivalent from recognised University/Institution.

3. ASSISTANT PROFESSOR OF
NEURO-RADIOLOGY

Qualification : M.D. Radiology/M.S Radiology/Speciality Board of Radiology (USA)/F.F.R or equivalent with training in Neuroradiology for two years.

4. ASSISTANT PROFESSOR OF
NEURO-PHYSIOLOGY

Qualification : M.D. or M.Sc. in basic medical sciences with specialisation in Mammalian Neurophysiology or allied areas for MEDICAL OR

(a) First or Second Class Master's Degree in Physiology or allied discipline of Life Sciences/Engineering Sciences from a recognised University/Institution (b) Ph.D/D.Sc with specialisation in Mammalian Neurophysiology or area allied to it from a recognised University/Institution for NON-MEDICAL.

5. ASSISTANT PROFESSOR OF
NEURO-ANAESTHESIA

Qualification : M.D. Anaesthesia/M.S. Anaesthesia/Speciality Board of Anaesthesia (USA) or equivalent with training in Neuroanaesthesia.

6. ASSISTANT PROFESSOR OF
CLINICAL PSYCHOLOGY

Qualification : (a) First or Second Class M.A/M.Sc. Degree in Psychology with Clinical Psychology as one of the subjects or equivalent qualification (b) Ph.D/D.Sc. in Clinical Psychology or equivalent qualification from a recognised University/Institution.

7. NURSING TUTOR (on contract basis for three years)

Qualification : (a) B.Sc. Degree in Nursing or equivalent qualification from a recognised University/ Institution (b) Diploma in Psychiatric Nursing or equivalent qualification from a recognised Institution/NIMHANS.

Experience : (Desirable) Teaching Psychiatric Nursing

Age Limit : 30 Years (Relaxable upto 35 years)

Pay : Rs. 2000/-, Rs. 2060/-, Rs. 2120/- (1st, 2nd, 3rd year respectively)

AGE LIMIT, PAY SCALE AND EXPERIENCE APPLICABLE FOR THE POST OF ASSISTANT PROFESSOR ARE AS FOLLOWS :-

MEDICAL

Age Limit : 40 Years (relaxable upto 45 years)

Pay Scale : Rs. 3500-125-4500/- + NPA of Rs. 850/-

Experience : THREE years teaching and/or research experience in a recognised Institution in the subject of speciality after obtaining the qualifying degree of M.D/M.S OR ONE year where the prescribed qualification is D.M/M.Ch.

NON-MEDICAL

Age Limit : 40 Years (relaxable upto 45 years)

Pay Scale : Rs. 3500-125-4500/-

Experience : THREE years teaching and/or research experience in the discipline subject after obtaining Doctorate degree.

TOTAL NUMBER OF BACKLOG VACANCIES OF SC/ST ARE AS FOLLOWS

Name of the post	Total No. of posts	SC	ST
Assistant Professors (Medical/Non-medical)	8	4	4
Nursing Tutors	2	1	1

TERMS AND CONDITIONS

1. Application forms can be obtained in person/by post from the Registrar, NIMHANS, PB No. 2900, Bangalore-560 029 by sending crossed I.P.O for Rs. 100/- drawn in favour of Director, NIMHANS with self addressed Rs. 4.50 stamped envelope (23x10 cms).

2. Separate application should be sent for each post.

3. All British medical qualifications obtained after 11.11.1976 are not recognised.

4. All posts except post at Sl. No. 7 are permanent and are eligible for pensionary benefits.

5. Those who are in service should forward the application through their employers or produce 'No Objection Certificate' at the time of interview, without which the candidate's application will not be considered.

6. Cut-off date for calculating age and experience is 15.7.1995.

7. Proportionate age relaxation will be given in respect of candidates in Government service as per Rules.

8. Those candidates already submitted their application in response to our notification No. NIMH/PER (5)/RECT/ADVT/94-95 dated 19.12.1994 need not apply.

9. In case the qualified candidates (SCs/STs) with sufficient experience are not available for Assistant Professors post, their cases will be considered for the post of Senior Resident/Junior Scientific Officer depending on merits of each candidate. Hence, those who are not possessing sufficient experience may also apply.

DIRECTOR

NAGALAND UNIVERSITY HEADQUARTERS : LUMAMI : CAMPUS : KOHIMA

NO.NU/Ext/94-95/7624,

June 5 1995

ADVERTISEMENT

Applications are invited for the undermentioned posts in the Nagaland University (Kohima Campus and School of Agricultural Sciences & Rural Development, Medziphema) to reach the Registrar, Nagaland University, Camp-Kohima, Pin: 797 001, Nagaland by 15th of July 1995.

KOHIMA CAMPUS

Sl.No.	Name of the post	No. of vacancy	Scale of pay
1.	Lecturer, Deptt. of Commerce	1	Rs 2200-75-2800-100-4000/-
2.	Medical Officer	1	Rs 2200-75-2800-100-4000/-
3.	Assistant Librarian	1	Rs 2200-75-2800-100-4000/-
4.	Assistant Engineer	1	Rs 2000-60-2300-EB-100-3500/-
5.	Calligraphist	1	Rs 2000-60-2300-EB-75-3200-100-3500/-
6.	Semi Professional Asslt.	1	Rs 1400-40-1800-EB-50-2300/-
7.	Museum Curator	1	Rs 1400-40-1800-EB-50-2300/-
8.	Laboratory Assistant	2	Rs 1320-30-1560-EB-40-2040/-
9.	Draftsman	1	Rs 1320-30-1560-EB-40-2040/-
10.	Sampling Assistant	1	Rs 1200-30-1560-EB-40-2040/-
11.	Jr. Stenographer	5	Rs 1200-30-1560-EB-40-2040/-
12.	Cutter-cum-Grinder	1	Rs 975-25-1150-EB-40-1540/-
13.	Field Attendant	1	Rs 750-12-870-EB-14-940/-

SCHOOL OF AGRICULTURAL SCIENCES & RURAL DEVELOPMENT (SASRD), MEDZIPHEMA CAMPUS

14.	Reader, Deptt. of Zoology/Entomology	1	Rs 3700-125-4950-150-5700/-
15.	Lecturer, Deptt. of Sociology (under extension)	1	Rs 2200-75-2800-100-4000/-
16.	Sr. Technical Assistant (Soil Conservation-I)	2	Rs 2000-60-2300-EB-75-3200-100-3500/-
	Botany & Plant Breeding-I)		
17.	Audio Visual Specialist	1	Rs 1400-40-1800-EB-50-2300/-
18.	Laboratory Assistant	2	Rs 1320-30-1560-EB-40-2040/-
19.	Jr. Stenographer	2	Rs 1200-30-1560-EB-40-2040/-
20.	Junior Artist	1	Rs 975-25-1150-30-1540/-
21.	Fieldman (Soil Conservation)	2	Rs 950-25-1150-EB-30-1540/-

Besides pay, allowances as per central government employees posted at Nagaland will be admissible.

Eligibility Criteria and Experience Required

For the post of Reader (Sl.No.14) : (i) Good academic record with at least 55% marks at Master's degree level in the relevant subject and the doctoral degree or equivalent published work. (ii) Not less than 8 (eight) years experience in teaching and/or research including 3 (three) years for research degree and has made some mark in the area of scholarship as evi-

denced by quality of publication, contribution to educational renovation, design of new courses and curricula.

For the post of Lecturer (Sl.No.1 & 15) : (i) Good academic record with at least 55% marks or an equivalent grade at Master's degree level in the relevant subject from an Indian University or an equivalent degree from a foreign university. (ii) Besides fulfilling the above, candidates should have passed the Eligibility Test for lecturer

conducted by the U.G.C./C.S.I.R./ J.R.F. or similar test accredited by the U.G.C. Candidates with 55% marks at Master's degree level are exempted from the Eligibility Test provided (a) They have already been awarded Ph.D. degree or have submitted their Ph.D. Thesis within 31st December, 1993.

OR

They have already been awarded M.Phil degree within 31st December, 1992.

For the post of Medical Officer (Sl. No.2): Passed M.B.B.S. from a recognised university with at least 3 (three) years experience in general practice.

Desirable : M.D. in any branch.

For the post of Assistant Librarian (Sl. No. 3) : (i) Passed National Level Test conducted for the purpose by U.G.C. or any other agency approved by the U.G.C. (ii) Masters' Degree in Library Science/Information Science/Documentation or any equivalent professional degree with at least 55% marks or its equivalent grade plus a consistently good academic record.

OR

Masters' Degree in Arts/Science/Commerce or equivalent degree with at least 55% marks or its equivalent grade with bachelor's degree in Library Science/Information Science/Documentation or an equivalent professional degree with at least 55% marks or its equivalent grade plus a consistently good academic record.

For the post of Assistant Engineer (SLNo.4) : Must have passed the final degree examination in B.E./B.Tech/B.Sc. Engg. in Civil Engineering from a recognised University/Institution or must have passed Section A + B of the A.M./E.Exam. of the Institution of Engineer (India).

Desirable : With sufficient working experience, at least 5 years.

For the post of Calligraphist (Sl.No.5) : A degree in Arts/Science/Commerce preferably with some experience in calligraphy.

For the post of Semi Professional Assistant (Sl. No. 6) : Bachelor Degree in B.A./B.Sc./B.Com. with Bachelor Library Science.

OR

Bachelor Degree with Certificate in Library Sciences plus 5 (five) years experience in college/university Library.

Ability to type will be counted as a plus point.

For the post of Museum Curator (Sl. No.7) : B.Sc. with Geology having experience in handling and arranging Museum Equipments/Tools.

For the post of Laboratory Assistant (Sl.No.8): B.Sc. with Geology having knowledge of Laboratory Techniques/Arrangements.

For Sampling Assistant (Sl. No. 10) : Passed P.U. Science with Geology and some exposure to the line.

For Draftsman (Sl.No.9) : A matriculate with Diploma in Draftsmanship from a recognised institute and some experience in the line.

For Stenographer (Sl. No. 11) : Must have passed at least Pre-University/ Higher Secondary and should have a speed of 80 W.P.M. in shorthand and 40 W.P.M. In typing. Knowledge of handling Electronic Typewriter/Personal Computer will be taken as an added point.

For Cutter-cum-Grinder (Sl.No. 12) : At least a matriculate conversant with the handling of semi-automatic paper cutting machine and different binding techniques.

For Field Attendant (Sl. No. 13) : Passed class VIII with some experience in the line.

For the post of Sr. Technical Assistant (Sl.No.16) : Good academic record with Second Class or an equivalent grade at master's Degree level in the relevant subject from an Indian University or an equivalent degree from a foreign university.

For Audio Visual Specialist (SLNo.17) : Matriculation or H.S.L.C. passed with Audio Visual Diploma from a recognised Institute. Preference will be given to the experienced persons.

For Laboratory Assistant (Sl.No. 18) : B.Sc. Agri. with soil conservation and one should have some experience/knowledge of Laboratory Techniques/Arrangements.

For Jr. Stenographer (Sl. No. 19) : Refer to that of (Sl.No.11)

For Junior Artist (Sl.No.20) : At least a matriculate with diploma in the field of Fine Arts from a recognised Institute. One's expertise on the drawing of scientific sketches will be counted as a plus point.

For the post of Fieldman (Sl. No. 21) : Passed P.U. (Agri.)/Intermediate (Agri.) or

P.U. Science or High School with Science (Agri.), and having a minimum of 3 years working experience in the line.

Application Form and Fee : Application in the case of those applying for the posts (SL Nos. 1, 2, 3, 14 and 15) should be on Prescribed Form. It can be obtained from:

- (a) The Registrar, Nagaland University, Campus : Kohima, personally on any working day during office hours.
- (b) The Registrar of the University by making a written request accompanied by self addressed stamped envelop of 23 x 10 Cm.

Application with attested copies of Marksheets/Certificates, Experience certificates etc. and the details of Research and Publications (For Teaching Posts) in support of eligibility must be accompanied by an application fee of Rs 50/- (Rupees fifty), Rs 25/- (Rupees twenty five) only in case of SC/ST/OBC/PH/EXSM candidates.

For the rest of the posts, application duly filled in the proforma given below must be accompanied by attested copies of Academic Certificates/Testimonials and application fee of Rs 10/- (Rupees ten), Rs 2.50/- (Rupees two and fifty paise) only for SC/ST/OBC/PH/EXSM candidates.

The Application Fee in the case of all is payable by Bank Draft/Banker's Cheque drawn in favour of Nagaland University on any Bank payable at Kohima. Fee may also be paid by I.P.O. drawn in favour of Nagaland University payable at Kohima Head Post Office.

Reservation and Age Limit : Usual reservation and upper age limit minimum being 18 years as on 1.6.1995, will be kept and relaxed as per rules of the Govt. of India for the candidates (For Non-Teaching posts) belonging to SC/ST/OBC/PH/EXSM and those employees working under state/Central govt/Public undertakings/organisations. Candidates claiming relaxation of age should enclose attested copies of relevant certificate from the competent authority.

- NOTE :**
- (a) Incomplete applications will be summarily rejected.
 - (b) Persons applying for more than one post should send separate application for each.
 - (c) Candidates already in service should send their application through proper channel; an advance copy

may, however, be sent directly.

- (d) Prescribed Form for the aforesaid posts will not be issued after June 30 1995.
(e) The University reserves the

right to fill up or not fill up any post(s) or call only selected candidates for interview.

K.K. Zhimoni
REGISTRAR

Proforma for Application

1. Name (in Capital Letters)
2. Father's/Husband's Name
3. Permanent Address
4. Address for present communication
5. Place of birth (including Police Station, Dist. etc.)
6. Date of birth
7. Age on 1.6. '95
8. Educational Qualification
9. Other Qualification
10. Experience, If any
11. Whether SC/ST/OBC/PH/EXSM
(to be supported by attested copy of the relevant certificate issued by the competent Authority)
12. Details of the instrument of payment of application fee
13. Are you a citizen of India, if so how?
14. Religion

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INSTITUTE OF CORRESPONDENCE EDUCATION

UNIVERSITY OF MADRAS

ADMISSION NOTIFICATION

The Institute of Correspondence Education offers the following courses during the Academic Year 1995-96 and the Calendar year 1996.

ACADEMIC YEAR (1995-96) COURSES

Three-year Under Graduate Courses (Both Regular & Open University System)	Eligibility	Calender Year 1996 Courses	(January to December 1996)
		Courses/Medium	Eligibility
B.A. History, Economics, Psychology, Indian Music, Co-operation and Corporate Secretarialship (English and Tamil Medium)	Eligibility under Regular Stream (Higher Secondary or equivalent Examination under 10+2/11+1 pattern)	(A) CERTIFICATE COURSES	
B.A. Tamil and English Literature	Eligibility under Open University System	(1) Library and Information Science (CLIS)-Three months English & Tamil Medium	Higher Secondary or equivalent Examination (10+2 or 11+1 pattern) for sl. nos. (1) & (2)
B.Sc. Mathematics and Geography (English and Tamil Medium)	Candidates who have completed 21 years of age on 1st June, 1995	(2) Jahnology—English & Tamil Medium — One year	
B.Com. (English and Tamil Medium)		(3) Salva Siddhanta—English & Tamil Medium—One year	Any recognised degree
B.B.A (Business Administration) (English and Tamil Medium)		(B) Bachelor of Library and Information Science (BLIS)—English —One year	Any recognised degree
B.B.M Bank Management (English and Tamil Medium)		(C) Master of Library and Information Science (MLIS—English)—One year	Any recognised degree in Library Science/Library and Information Science
B.LL.B. (Tamil)		(D) Bachelor of education (B.Ed.) — English & Tamil — One year	B.A/B.Sc./B.LL.B. or a Post-graduate degree subject to conditions mentioned in the Prospectus.
Two Year Post Graduate Courses (Under Regular Stream only)	Eligibility (10+2+3; 11+2+2; 11+1+3 pattern)	(F) Master of Education (M.Ed) —English—One year	Any recognised Degree in Education/Teaching
M.A. History (English and Tamil Medium)	B.A/B.Sc./B.Com. Degree	(F) DIPLOMA COURSE : (One Year) (1) Labour Law (English) (2) Taxation (English) (3) Insurance Law (English) (4) Mercantile Law (English) (5) Indian Constitutional Law (English) (6) Criminal Law Including Evidence (English) (7) Geography (English & Tamil)	Any recognised Degree for Serial Numbers (1) to (6)
M.A. Political Science (English Medium)	Any recognised degree		
M.A. Public Administration (English Medium)	Any recognised degree		
M.A. Defence and Strategic Studies (English Medium)	B.A/B.Sc./B.Com. except few branches (For details, please refer prospectus or a pass in the Entrance Examination of DSSC for Army and Air Force or the Command Examination for Naval Officers.)	(G) Degree of Master of Computer Applications (MCA)—Three Years—Semester System—(English Medium)	Any Graduate who secured 50% of aggregate marks and Studied Mathematics atleast as an Ancillary subject or B.E./B.Tech./M.B.A.
M.A. Economics (English Medium)	B.A. Economics/B.Sc. Statistics/Maths./B.Com.	(H) IAS Coaching programme—One Year (English Medium)	Any Recognised Degree. (Students doing Postgraduate Degree Courses can also take up the Coaching)
M.A. Tamil	B.A/B.Sc. with Tamil under Foundation Course/Part VIII or B.LL.B.		
M.A. English	B.A/B.Sc. with English under Foundation Course/Part I/II		
M.Com. (English Medium)	B.Com./B.A. (Co-operation) Corporate Secretarialship/ Industrial Organisation (Leather)-B.B.A./Bachelor of Bank Management/B.Sc. Mathematics (Main) with Accountancy and Costing & Banking as Allied subject to the conditions mentioned in the prospectus.	NOTE : 1. One language is to be selected in B.A/B.Sc./B.Com. Degree Course out of Tamil/Telugu/Malayalam/ Kannada/Hindi/ Urdu/ Sanskrit/ Arabic/ Persian and French apart from English as compulsory language. 2. The Syllabi for the above mentioned courses are the same as for regular college candidates of this University. 3. All the courses of the Institute are offered to the residents of India only. 4. All Open University System candidates who satisfy the stipulation regarding age will be admitted provisionally and their admission confirmed after passing out the entrance test which will be con-	

ducted on 15th Oct. 1995 by the Institute after giving them preparatory course material. Preparatory course will be conducted at Centres in Tamil Nadu.

5. The Examination and Entrance Test for candidates under the Open University System are conducted in various places of Tamil Nadu and also at Bangalore, Bombay, Calcutta, Delhi, Hyderabad, Pondicherry, Thiruvananthapuram, Kochi and Port Blair. Depending upon the concentration of students, more centres may be opened.
6. The personal contact programmes are conducted only in Tamil Nadu and Pondicherry.
7. Admission for B.Ed. Course is open only to candidates in Tamil Nadu, Pondicherry and Andaman and Nicobar Islands.
8. Attendance is compulsory for B.Ed., M.Ed. and M.C.A. degree Courses, Selective admission will be made for M.C.A. Course.
9. Candidates are advised to contact the Institute or at the Spot Selection Centres directly either in person or by post for information regarding Prospectus and Application Form.
10. Admission to candidates for all courses who were qualified in other University/Bodies will be considered only on the condition if their previous qualification were recognised by this University.
11. Spot selection for all courses except MCA and LAS coaching programme will be given to those who come to the Institute in person and at the centres mentioned below along with the required documents/certificates and a draft for registration fee, as mentioned in the prospectus.
12. The Prospectus and Application Form will be available for sale from 1st June, 1995.

SPOT SELECTION CENTRES	VENUES
1. Cuddalore	Pariyar Arts College
2. Tiruvannamalai	Govt. Arts College
3. Dharmapuri	Govt. Arts College
4. Krishnagiri	Govt. Arts College for Men
5. Salem	Govt. Arts College for Men
6. Coimbatore	P.S.G. College of Arts & Science
7. Tiruchirappall	Jamal Mohammed College

8. Thanjavur	Uma Maheswara Higher Secondary School, Karanthal
9. Palayamkottai	St. Xavier's College of Education,
10. Madurai	Thyagaraja College of Preceptors
11. Port Blair	Government B.Ed. College
12. Pondicherry	Bharathidasan Govt. Arts College for Women
13. Vellore	Muthurangam Govt. Arts College
14. Madras	Office of the Institute, Chepauk.

PROCEDURE FOR OBTAINING THE PROSPECTUS AND APPLICATION FORM

The Prospectus and the Application form can be had from the Director, Institute of Correspondence Education, University of Madras, on payment of Rs. 45/- by means of crossed Account Payee Demand Draft drawn in favour of the "Director, Institute of Correspondence Education, University of Madras, Madras-5" or from Association of Indian Universities House, 18, Kotta Marg, New Delhi-110002, and from the Co-ordinator of the Spot Selection Centres concerned mentioned above on payment of cash. Cash will also be accepted at the enquiry counter of the Institute. Other mode of payments will not be accepted.

Last date:

The duly filled in, application form if sent by Post should reach THE DIRECTOR, INSTITUTE OF CORRESPONDENCE EDUCATION, UNIVERSITY OF MADRAS, CHEPAUK, MADRAS-600005, along with the required fee as mentioned in the Prospectus on or before:

U.G. Courses under :

Open University System	: 31-07-95
Regular Stream	: 30-08-95
P.G. Courses	: 29-09-95
BLIS/MLIS/B.Ed., M.Ed./Diploma Courses, Certificate Courses and MCA	: 31-10-95
IAS Coaching Programme	: 29-12-95
15-05-95	Dr. M. Shanmugham
Madras	DIRECTOR

SHRI HARI OM ASHRAM PRERIT DR. VIKRAM SARABHAI RESEARCH AWARDS

The Physical Research Laboratory makes four awards called "Shri Hari Om Ashram Prerit Dr. Vikram Sarabhai Research Awards", every two years from funds kindly provided by Puja Shri Mata of Hari Om Ashram of Nadiad. The awards, each of value of Rs. 25,000/- and a medal will be given to Indian Scientists, who are below 45 years of age, on 1st January 1995 for outstanding original work in the following fields :

1. Space Sciences (including Astronomy, Astrophysics, Planetary and Atmospheric Sciences).
2. Space Applications (in the area of Meteorology, Hydrology, Remote Sensing and related ground truths).
3. Electronics, Informatics, Telematics and Automation.
4. Systems Analysis or Management including non-linear, non-equilibrium systems in natural and social sciences and technology.

Although the overall work of the candidates would be taken into account, the work done in India would be given prime consideration.

The candidate should have to his credit at least one or more of the following achievements :

- 1) Significant achievement in scientific research.
- 2) Important and successful adaptation of new technology.
- 3) Planning, development and implementation of systems in the context of science and technology.

The selections for the year 1995 will be completed by February 1996 and the awards presented on 12 August, 1996.

The last date for receiving nominations is September 15, 1995. Sponsors are requested to send a two page note (6 copies) summarizing the contributions and achievements of the sponsored candidate together with his/her biodata (6 copies) in a cover marked 'confidential', addressed to the Director, Physical Research Laboratory, Navrangpura, Ahmedabad 380 009.

More detailed information will be asked for by the Selection Committee, if considered necessary.